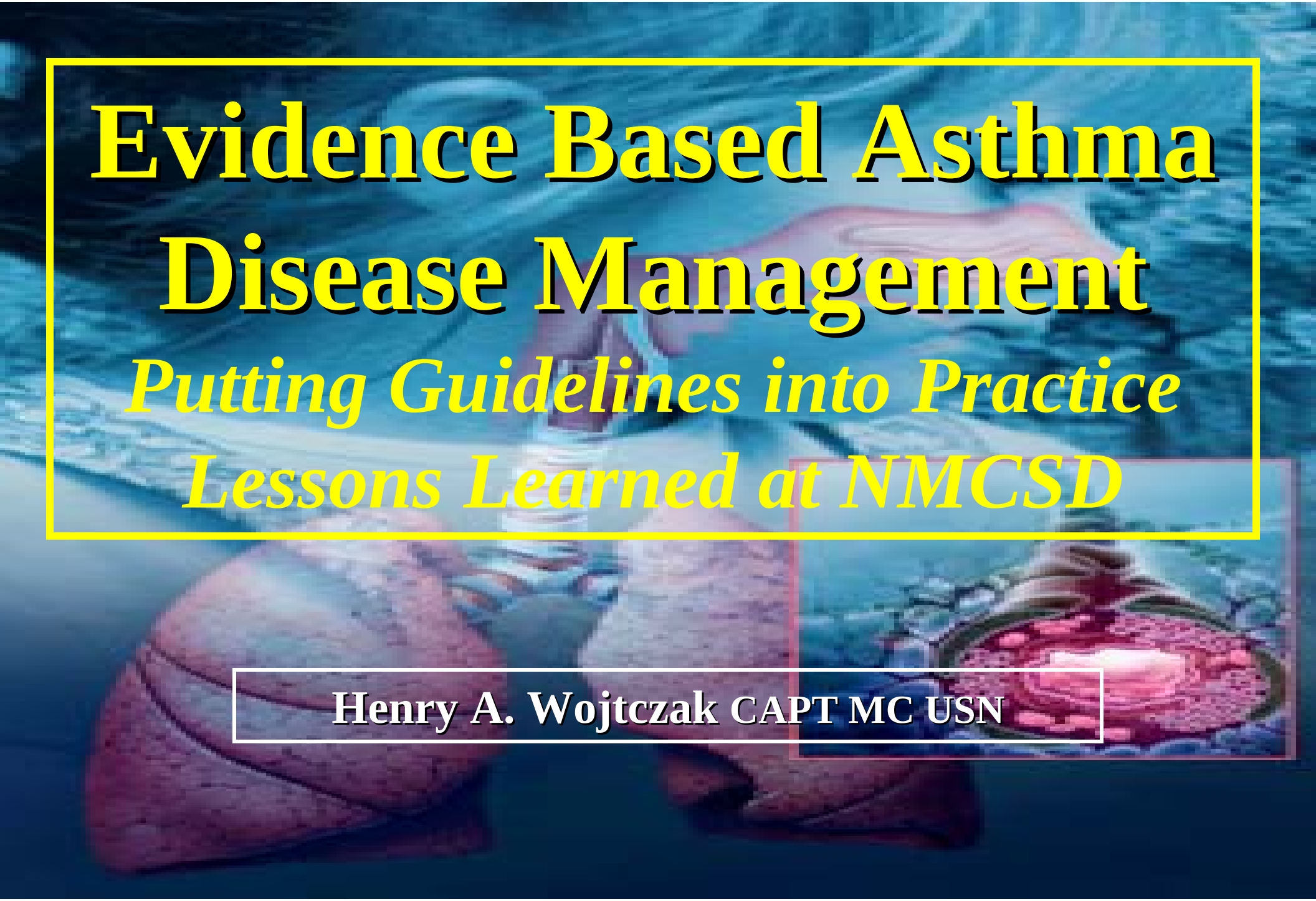
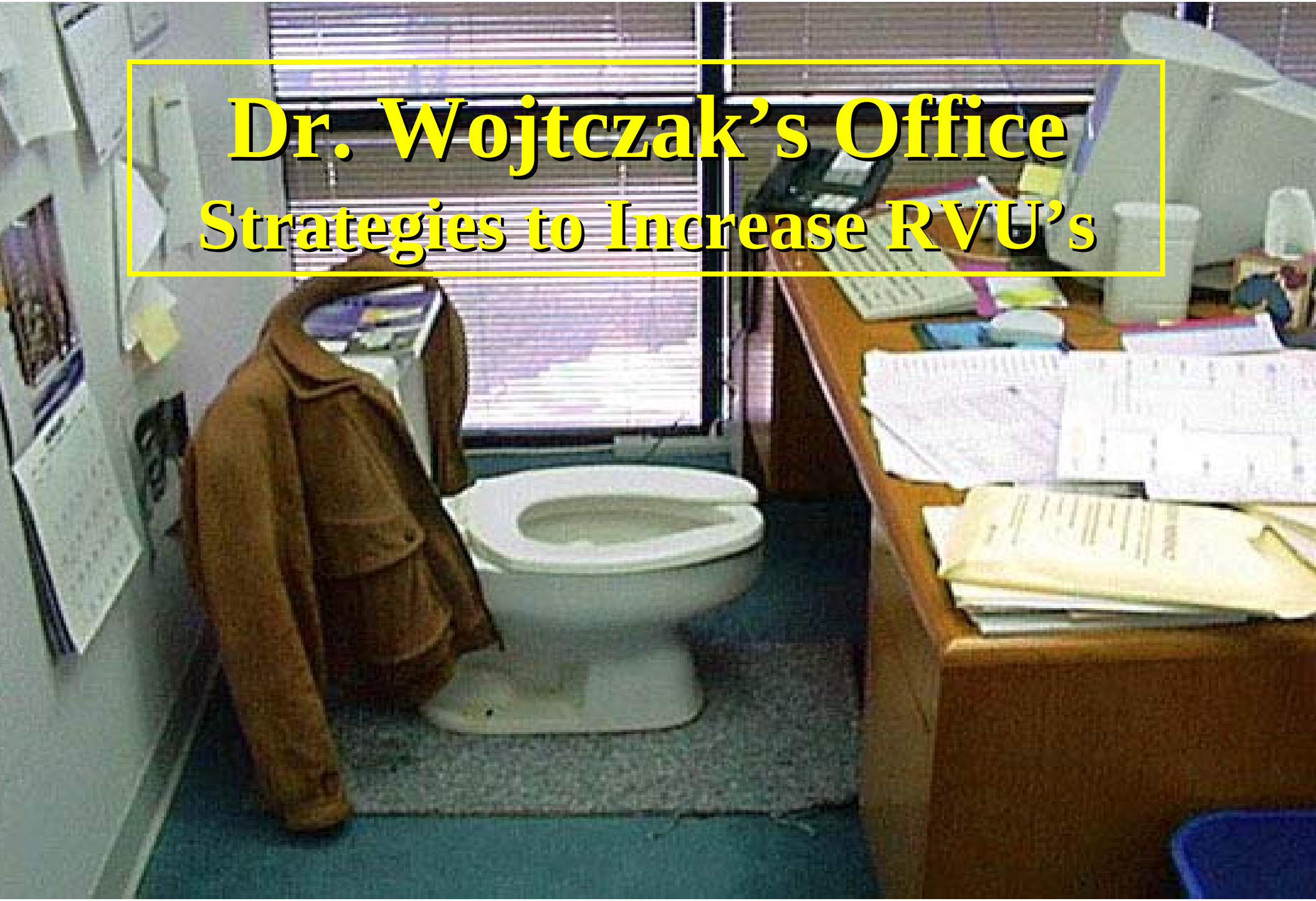


Evidence Based Asthma Disease Management

Putting Guidelines into Practice

Lessons Learned at NMCSD

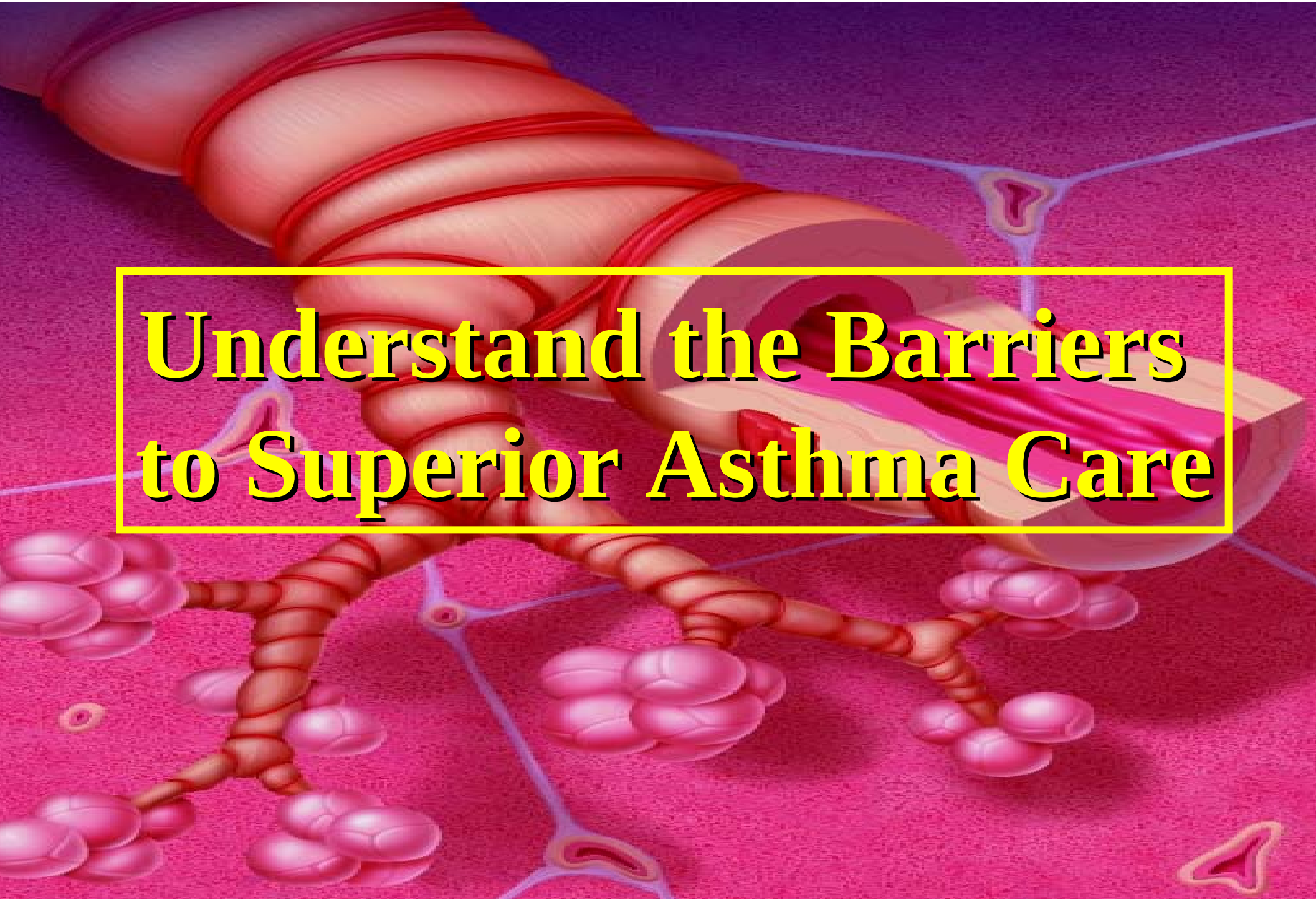
Henry A. Wojtczak CAPT MC USN


Dr. Wojtczak's Office
Strategies to Increase RVU's

Learning Objectives

- Understand the barriers to superior asthma care
- Understand the BUMED note as it relates to Asthma

  Recognize the fundamental components of an evidence based asthma disease management program
- Address the issues around long term control medications
- Be familiar with the role of lung function testing
- Understand the importance of action plans


Understand the Barriers
to Superior Asthma Care

Self-Reported Physician Practices For Children With Asthma
Are National Guidelines Followed?

- Survey of 671 PCP (Peds and FP)
- 3 geographically diverse managed care groups
- Domains of interest
  - Asthma diagnosis
  - Pharmacotherapy
  - Patient Education
  - Follow-up
  - Indications for specialty referral

Finkelstein. Pediatrics 2000;106:

Self-Reported Physician Practices For Children With Asthma
Are National Guidelines Followed?

- 64% response rate (429)
- 91% heard of NHLBI asthma guidelines
- 72% had read guidelines
- Diagnosis
  - 73% used office peak flow
  - 21% used spirometry
  - FPs more likely to use spirometry for diagnosis
- Pharmacotherpy
  - 93% felt ICS safe
  - ½ had side effect concerns about growth

Self-Reported Physician Practices For Children With Asthma
Are National Guidelines Followed?

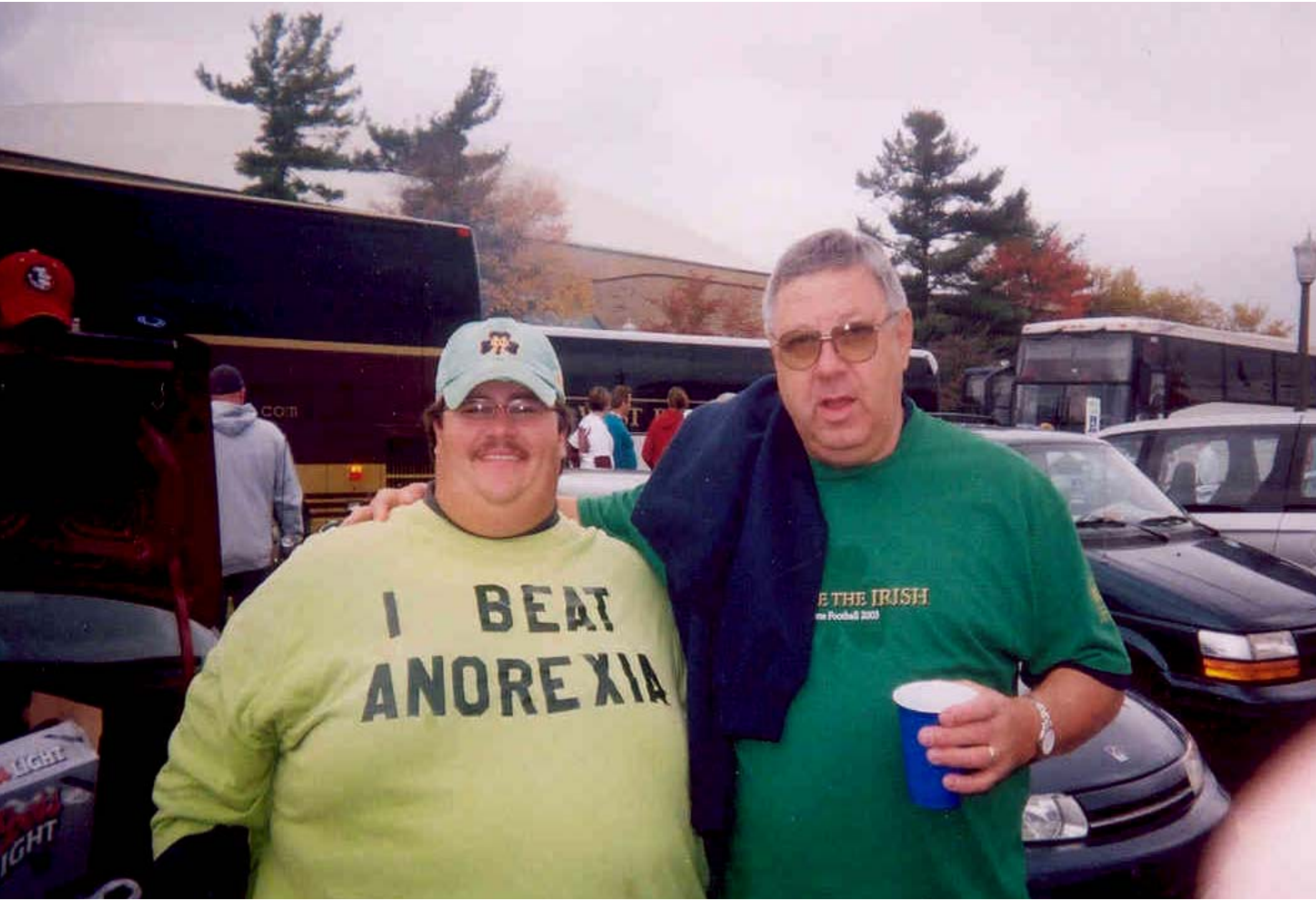
- **Patient Education**
  - **Only 50% provided written action plan**
  - **33% directly observed inhaler technique**
- **Choose to manage more severe patients without referral to asthma specialist**
- **Concluded QI opportunities exist**
  - **Written action plans**
  - **Optimizing anti-inflammatory dosing**
  - **Providing appropriate follow up**

Identify and Fix these Barriers to Outstanding Asthma Care

- Failure to diagnose asthma
- Failure to assign correct severity category
- Choosing the wrong controller
- Failure to address medication side effect concerns
- Not confirming proper medication delivery
- Ignoring Caregiver / patient adherence
- Failure to identify and investigate poor control
- Relying on recurrent oral steroid bursts for control
- No plan to deal with lack of time / educational resources
- Failure to refer to asthma specialist

Characteristics of Top Notch Asthma Care Systems

- Embedded guidelines in practical tools such as encounter forms and wall charts
- Team-based approach to care delivery
- Processes that support the ability of patients and their families to manage their own conditions
- Close linkages with community resources
- Process for tracking all patients with asthma in the practice and identifying/ stratifying patients in need of particular services


I BEAT
ANOREXIA
E THE IRISH

NMCSD Asthma Disease Management Looking Back

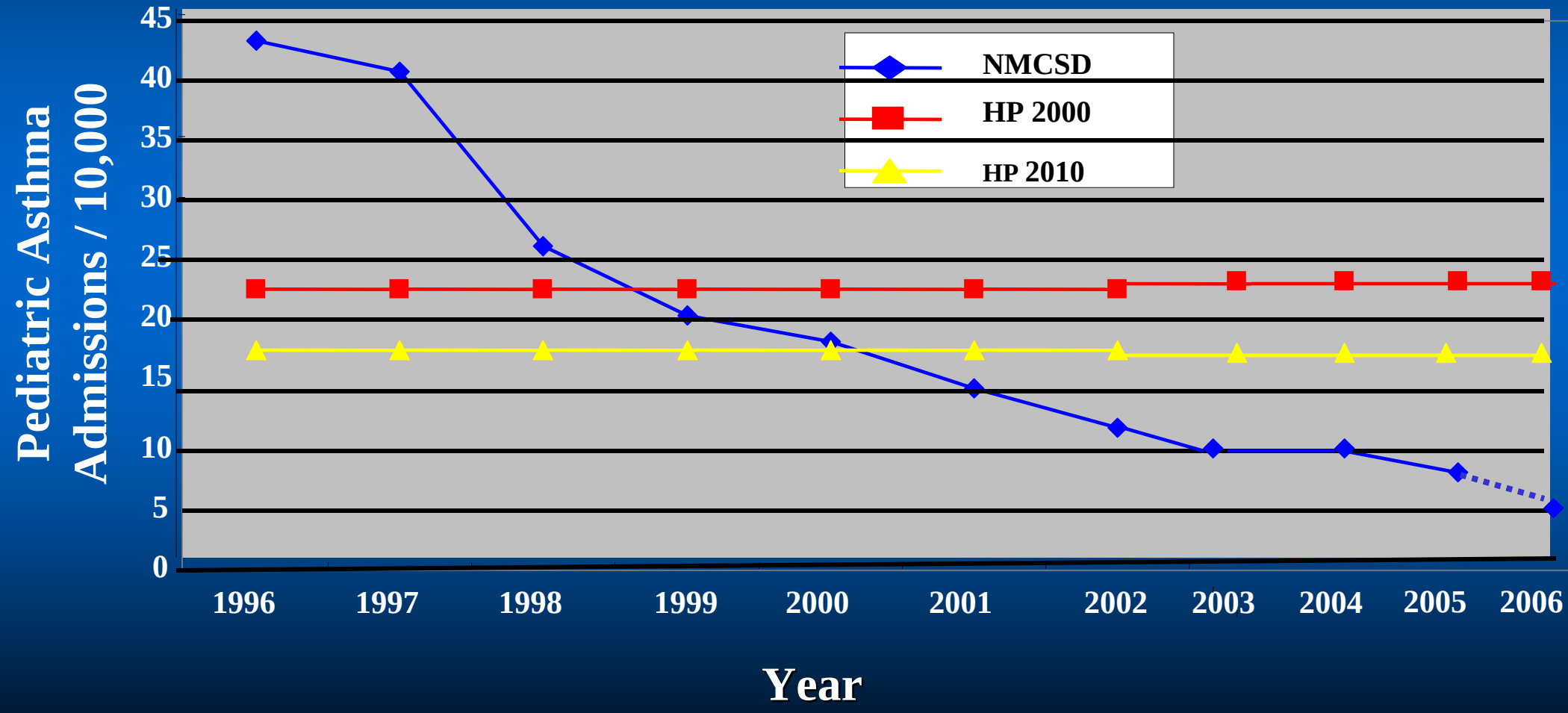
- 1996- comprehensive pediatric asthma inpatient clinical practice guideline implemented
- 1997- asthma guideline updated to coincide with NHLBI EPR 2 and outpatient clinical pathway implemented
- 1998 - converted to preferred aerosol delivery via pMDI + VHC
- 1999-added pediatric asthma clinical nurse educator
- 2002- asthma hospitalization rate falls to 36% below HP 2010 BM

NMCSD Asthma Disease Management Looking Forward

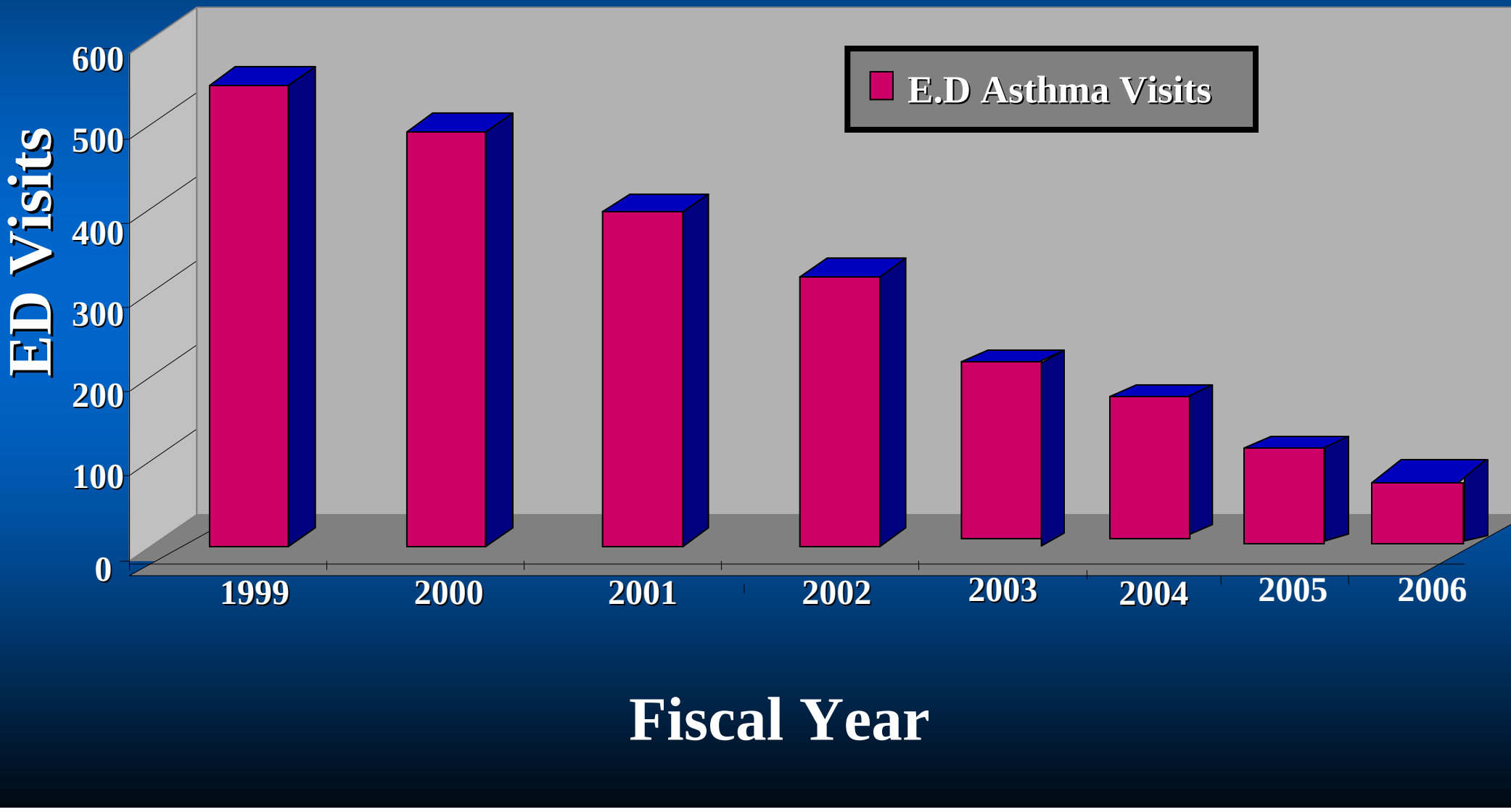
- 2003- children seen in NMCSD ED referred to asthma team
- 2003- command asthma clinical quality team chartered
- 2004- asthma electronic registry with POC decision support
- 2005- asthma hospitalization rate falls to 58% below HP 2010 BM
- 2006- group asthma patient education delivered where our patients / families live
- 2006-Update of the NHLBI and DOD-VA Asthma CPG*

*** pending**

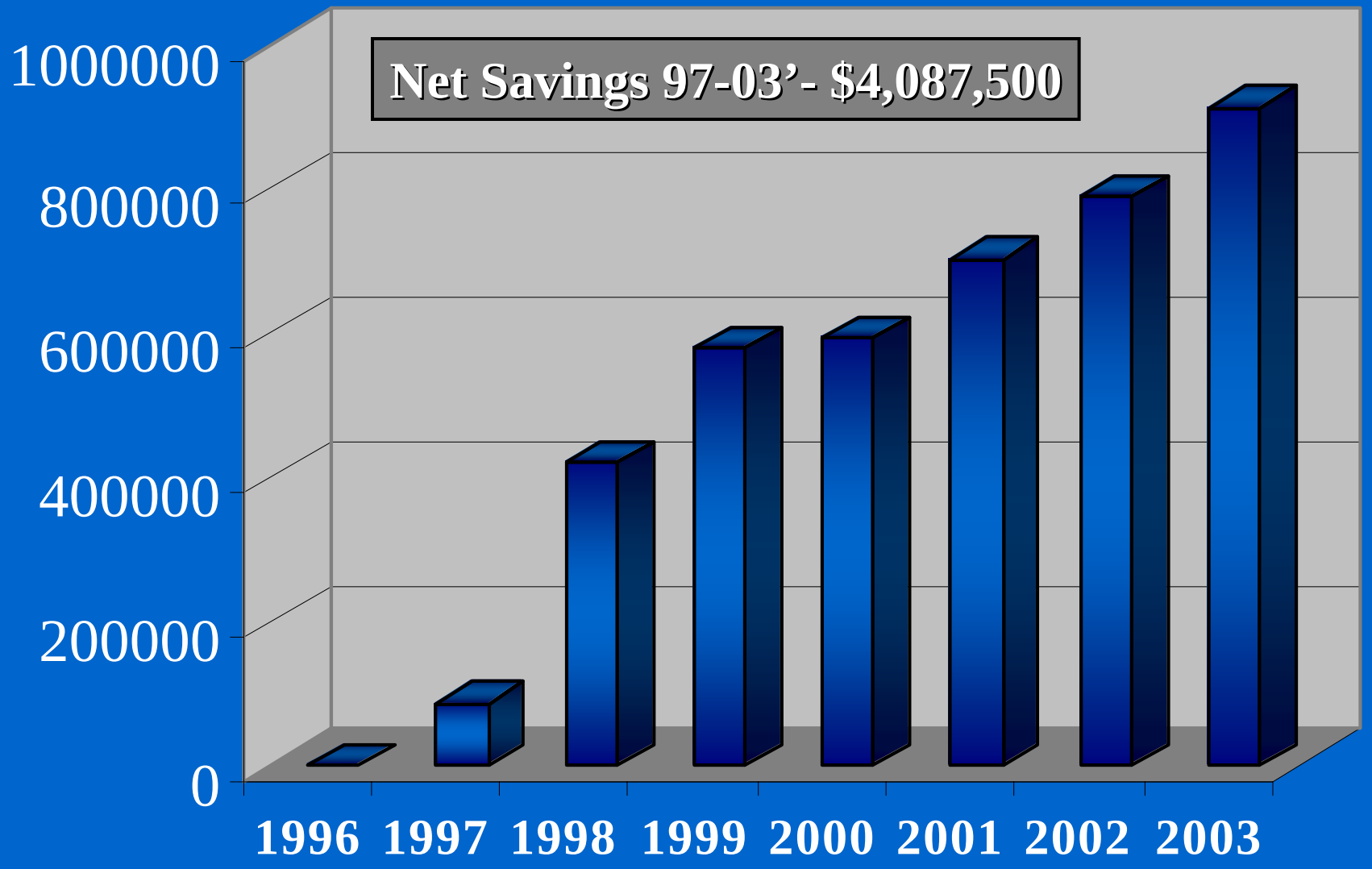
NMCSD Pediatric Asthma Hospitalization Rate vs. Healthy People 2000 and 2010 Benchmarks



NMCSD Emergency Department Pediatric Asthma Visits



Naval Medical Center San Diego Pediatric Asthma Inpatient Cost Savings Compared to Fiscal Year 1996



Understand the BUMED Note as it Relates to Asthma

NAVY MEDICINE

World Class Care…Anytime, Anywhere

FY 2006 Navy Medicine Disease State And Condition Management Program

Within the Navy Medicine direct care system, patients with persistent asthma, but who are not on a long-term controller medication, have over a ten-fold higher ED utilization and inpatient admission rate than persistent asthma patients on a long-term controller medication

FY 2006 Navy Medicine Disease State And Condition Management Program

- Optimal asthma management includes appropriate assessment and therapy, providing patient education, and assuring follow-up especially after ED visits and admissions
- Standards of Successful Asthma Disease Management
  - Identification of Asthma Cohort
    - Identify enrolled patients diagnosed with asthma and take action to manage their care
  - Clinical Practice Guideline
    - Implement an existing clinical practice guideline for asthma care
    - Recommended guidelines, with accompanying evidence review are available on the Asthma Champion Toolkit

https://dataquality.med.navy.mil/Community/Clinical/Disease+Management/default.aspx

Asthma Care and Resources Toolbox

FY 2006 Navy Medicine Disease State And Condition Management Program

- Asthma Management Re-Engineering
  - Identification and understanding of why enrolled persistent asthma patients are not currently on long-term controller medications, particularly inhaled corticosteroids
  - Notification of primary care manager (PCM) within 24-hours after a patient is seen for asthma in the ED
  - 24-hour telephonic access to primary care for patients with asthma
- Training all members of the health care team on their respective roles and responsibilities
  - Conduct initial and ongoing training on basic skill competencies for asthma care team members

Utilizing the NMCSD Asthma Registry to Improve Outcomes
Approach to the Registry Patient Not on LTC Medication

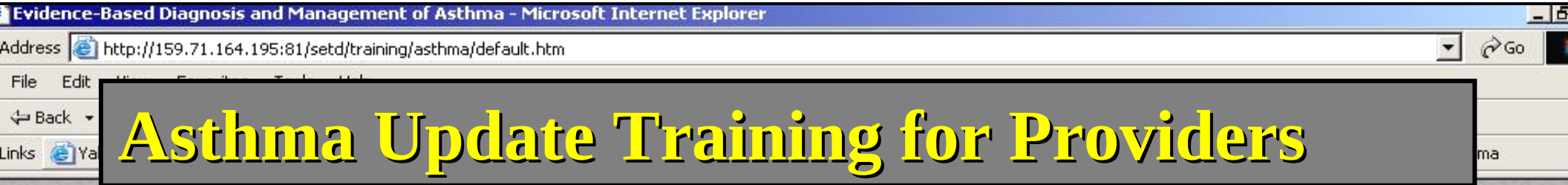
The Asthma Clinical Quality team and especially the pulmonary specialists, Drs. Boland and Wojtczak have taken a proactive approach to managing the health care needs of patients with persistent asthma. To support the quality of health care that our beneficiaries deserve, please complete the following evaluation of your clinics assigned asthmatic population who are NOT receiving long term control medications to control their asthma. Use available Clinical Information Systems (CIS) such as the Oracle Asthma reports to identify your enrolled asthmatics and those NOT on LTC Meds, Easy CHCS to identify medications, ED visits and admissions and chart reviews or patient interviews to complete the medication requirements assessment. **Complete your review using the attached Excel spreadsheet**, pay attention to the choices listed in the comments. The results of your analyses will be briefed to the ESC by the Population Health Department in November, to explain the Command Performance Dashboard clinic ranking by the HEDIS Asthma LTC Metric.

- The total number of asthmatics enrolled to my clinic is: _____
- The total number of asthmatic patients NOT on LTC meds is: _____
- The **names** of all the asthma patients not on LTC meds are: Please attach a list of your clinic's asthmatic patients who have not been prescribed LTC medications.

- Using the list of names from above, please annotate next to each patient's name 1 of the 4 following reasons that this patient is not receiving a LTC medication for asthma control:
  - Patient has mild intermittent asthma and doesn't require LTC meds
  - Patient is no longer enrolled to this POC or has moved from the San Diego area or is deceased
  - Patient should not be in the asthma registry because this patient does not have asthma
  - Other; Patient is: _____

- Please annotate your list of patient names with your "plan" for correcting any of the issues that you have discovered related to the utilization of long term control medications for your asthmatic patients. Next to each patients name and your reason chosen from the list above, please annotate what you have done to close the loop for that patient. Choose from the following list:
  - For patients who need LTC meds state either: Contacted patient for an appointment or unable to contact patient after three attempts
  - For issues related to enrollment, deaths or patient's who have moved to another state: Notified DHOP-LT Pinion-Larkin
  - For patients determined to have mild intermittent asthma state your methodology: chart reviewed or patient interviewed
  - For patients who you have determined are NOT asthmatic and who you feel do not belong on the Asthma Registry state which registry rule got them listed on the registry erroneously: (this is most easily accomplished using Easy CHCS in the Asthma Disease Summary page for that patient)
    - Primary diagnosis of asthma in the ED in the past 24 months
    - Admission with a primary diagnosis of asthma in the past 24 months
    - Four asthma meds in 24 months
    - Four outpatient diagnoses (any priority primary through 4th) of asthma and 2 prescriptions for asthma meds in the past 24 months
    - Four prescriptions for Accolate or Singulair and One diagnosis of asthma in the past 24 months

"LTC Analysis.xls"



Asthma Update Training for Providers

Evidence-Based Diagnosis and Management of Asthma

By:

CAPT Henry Wojtczak, MC, USN
LCDR Christopher Lewis, MC, USN
LCDR Donald Woodmansee, MC, USN

Please read the information below before continuing.

1. **Disclaimer:** NMCSD has no affiliation or financial interest/arrangements with any corporate organizations that may have been mentioned during this activity.
2. **Objectives:**

   At the conclusion of the presentation the participant will:

   - Define the current definition of asthma and recognize the relevance of airway inflammation to asthma therapy.
   - Recognize the diagnosis of asthma utilizing a focused history and physical examination, while excluding alternative diagnoses.

Asthma Toolbox

- **Asthma Devices**
  - Aeroeclipse (Breath Actuated Nebulizer - BAN)
  - Dry Powder Inhaler (DPI)
  - MDI Aerochamber Mask Assessment
  - MDI Aerochamber Mouthpiece Assessment
  - MDI Tracker Care 200 for MDI and DPI
  - Peak Flow Meter Assessment
- **Asthma Medications**
  - Anticholinergics
  - Antihitimines
  - B_2 Agonists
  - Inhaled Steroids

Final Asthma Management Test for Providers

You need to get ten questions correct to successfully complete the test.

1. Which of the following is false regarding the use of short-acting inhaled B2-agonists (albuterol)

- a. Most effective medication for relieving acute bronchospasm.
- b. Use of more than one canister per month indicates inadequate disease control.
- c. Should be used in a scheduled manner to reduce frequency of attacks.
- d. Frequent use can lead to decreased numbers of B2-receptors in the lung.

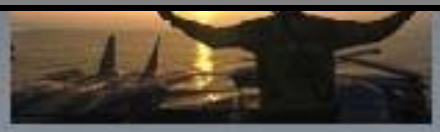
If you got the question wrong, do you want to go back to the presentation? Yes

2. Which of the following statements regarding the use of inhaled corticosteroids is false?

Disease Management Champion Training

DM KICKOFF MEETING

GENERAL INFO | REGISTRATION | LODGING OPTIONS | COSTS
AGENDA | UNIFORM / DRESS | PRE KICKOFF HOMEWORK | POINTS OF CONTACT



COMMITMENT - DEDICATION - SACRIFICE

Increasing Use of Evidence Based Healthcare
Surgeon General's FY 2005 Disease and Condition Program Kickoff Sessions

From: Deputy Chief, Health Care Operations

INCREASING USE OF EVIDENCE BASED HEALTHCARE: SURGEON GENERAL'S FY 2005 DISEASE STATE AND CONDITION MANAGEMENT PROGRAM KICKOFF SESSIONS

Admin Log On

User ID:

Password

Meeting Information and Requirements

1. Meeting Dates and Locations: There will be two kickoff sessions offered by representative HSOs.

a. East Coast Kickoff (for MTFs within HSOs Jacksonville and Norfolk): The dates for the east coast kickoff are 13-14 April 2005. The meeting will be held at the Naval School of Health

Science, 1001 Holcomb Road, Portsmouth, VA 23708 (on the compound of NMC Portsmouth). Quarterdeck phone is (757) 953-5040. Participants will be on their own for snacks and meals that will be available at NMC Portsmouth.

b. West Coast Kickoff (for MTFs within HSO San Diego): The dates for the west coast kickoff are 3-4 May 2005. On the first day, the meeting will be held at the Point Loma Room of the Admiral Kidd Conference Center (BOQ) on the Fleet Anti-Submarine Warfare Base, San Diego (619) 524-6287. On the


DOING A GOOD JOB HERE
Is Like Wetting Your Pants
In A Dark Suit
YOU GET A WARM FEELING
BUT NO ONE ELSE NOTICES

FY 2006 Navy Medicine Disease State And Condition Management Program

- **Patient Education**
  - Implement a culturally sensitive comprehensive asthma education process
- **Clinical Metrics**
  - Multiple metrics can be tracked locally, the following HEDIS® metric is tracked centrally
    - Percent of patients at each MTF, continuously enrolled for the past two years, ages 5 - 56 years, with persistent asthma during each of the last two years, who had at least one prescription during the last 12 months for one of the following medications: inhaled corticosteroids, nedocromil, cromolyn sodium, leukotriene modifiers, and methylxanthines
    - Because of recent changes in the HEDIS® methodology, the benchmark will be the current Navy Medicine 90th percentile which is 78%

Asthma Patient Education Resources
Naval Medical Center San Diego

These are the patient centered asthma resources currently available at Naval Medical Center San Diego

1. Asthma Patient Education PowerPoint Presentation available on the NMCSD Internet at http://www-nmcsd.med.navy.mil/service/doc_lib.cfm

2. Asthma Care Guide available on the NMCSD Internet at http://www-nmcsd.med.navy.mil/service/doc_lib.cfm

3. Pediatric Asthma education videos available by using the following internet link www.starbright.org/projects/asthma

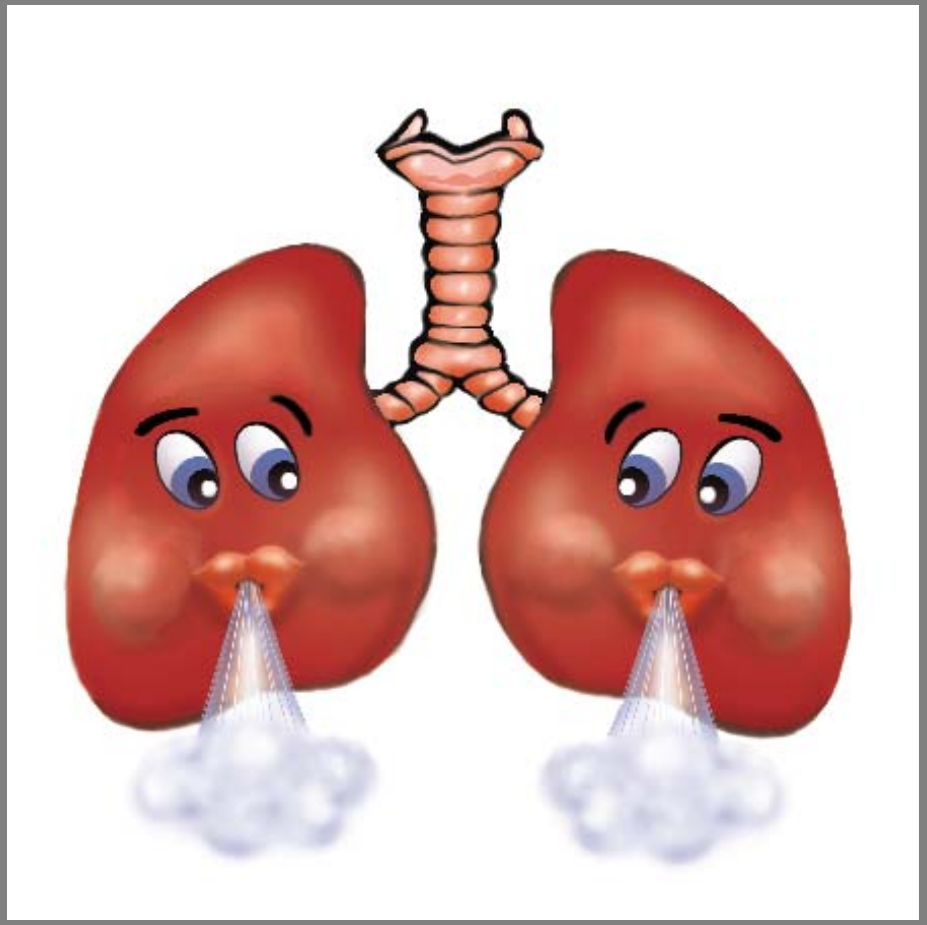
4. My Asthma Survival Card
    a. This pocket-sized trifold containing vital information related to managing asthma is available at all Primary Care Clinics. Patients should be provided with their own personalized copy.

5. One on One appointment with one of the Pediatric Asthma educators.
    a. Patients may call the Pediatrics Asthma Nurse Educator, Mrs. Lisa Burns directly to coordinate an asthma education appt. work phone: (619) 532-8819
    b. Providers may refer asthmatic patients for education by entering a consult in CHCS to Pediatrics Pulmonary for an asthma education appt.

6. One on One appointment with one of the Adult Asthma educators.
    a. Providers may refer asthmatic patients for education by entering a consult in CHCS to Adult Pulmonary for an asthma education appt.

7. Active Duty Asthma Clinic every Thursday morning
    a. Providers may refer active duty asthmatic patients to the Pulmonology Clinic for a complete evaluation including pulmonary function tests, exercise tests, final disposition, and follow-up plan by entering a consult in CHCS to Adult Pulmonary for an active duty clinic appt.

MY ASTHMA CARE GUIDE



sk your Asthma Care Provider about:

1. **Your Asthma Action Plan**: talk about how its working and if it needs to be updated.
   Your Medications: make sure you know what your medications are, how often you should take them, how to use them properly, and what results to expect.
   Your Symptoms: talk about how often you have them and what triggers them. Make sure you know the early warning signs of an attack and what to do if one occurs.
   Your Environment: Ask what you can do to get rid of asthma triggers in your home, at work and other places where you spend a lot of time.
   Your Lung Function: Ask if you should get a simple test (called spirometry) to find out how your lungs are working and if you should use a peak flow meter to check lung function at home.

even Steps to Optimal Asthma Care:

Ask about a written Home Asthma Action Plan and instructions on its use.
Receive an influenza immunization each fall.
If older than 5, have lung function testing every 1-2 years.
If you are having asthma symptoms (cough, wheeze, chest tightness, chest pain, shortness of breath, difficulty breathing) more than 2 days per week and/or 2 nights per month, your asthma **IS NOT Controlled**….contact your Asthma Care Provider promptly.
Take controller medications daily even when you feel well and **never run out of refills**.
For **severe** symptoms not responding to abuterol, seek immediate medical care.
Regardless of asthma severity, your asthma care provider should reevaluate you at least every 6-12 months.

When My Asthma is Controlled I should :

1. Be symptom-free all or most of the time
2. Enjoy being physically active without having asthma symptoms
3. Not miss school or work because of asthma symptoms
4. Sleep through the night without asthma symptoms

Naval Medical Center San Diego

34800 Bob Wilson Drive
San Diego, CA 92134-5000

Website: http://www-nmcsd.med.navy.mil

My Asthma Medications

Controllers- These medicines are **preventative** and are to be used **EVERYDAY**, regardless of how you feel.
? Flovent (orange) ____ mcg ___ puff(s) ___times a day
? Aerobid (purple) ____ mcg ___ puff(s) ___times a day
? Azmacort (white)____ mcg ___ puff(s) ___times a day
? Pulmicort (white)____ mcg___ puff(s) ___times a day
? Pulmicort Respules ____ mcg nebulized
? Serevent (green) ____ mcg ___ puff(s) ___times a day
? Advair (purple)____ mcg ____ puff(s) ___ times a day
? Singulair 4 mg 5 mg 10 mg tablet Take one by mouth before bed.
Rescue Inhalers- For use with symptoms of shortness of breath, cough or wheeze.*
? Albuterol ____ puff(s) ____times a day as needed for asthma symptoms
- also called Proventil or Ventolin
* Always use your Valved Holding Chamber with a metered dose inhaler.
Other meds:_____
_____
_____

Naval Medical Center San Diego
Asthma Clinical Quality Team
My Asthma Survival Card

Name:_____
My Asthma Care Provider:_____

Important Phone Numbers /Web Sites

- **After hours answering service #: 619-532-8225**
- **Asthma Care Provider during normal work hours #:**_____
- **Pharmacy Refill #: 619-532-8400**
- **American Lung Association of San Diego and Imperial County: http://www.lungsandiego.org/asthma/index.asp**
- **National Jewish Hospital Asthma Education: http://asthma.nationaljewish.org/index.php**
- **California Air Quality:http://www.epa.gov/cgi-bin/airnow.cgi?mapdisplay=WHEREILIVE&MapDomain=casdc**

Common Asthma Triggers

1. Smoke including tobacco, fireplace and barbecue
2. Dust mites
3. Indoor mold
4. Animal dander
5. Cockroach droppings
6. Pollen
7. Strong odors including perfumes
8. Exercise
9. Cold air
10. Viral and bacterial upper respiratory infections
11. Aspirin and non-steroidal medications

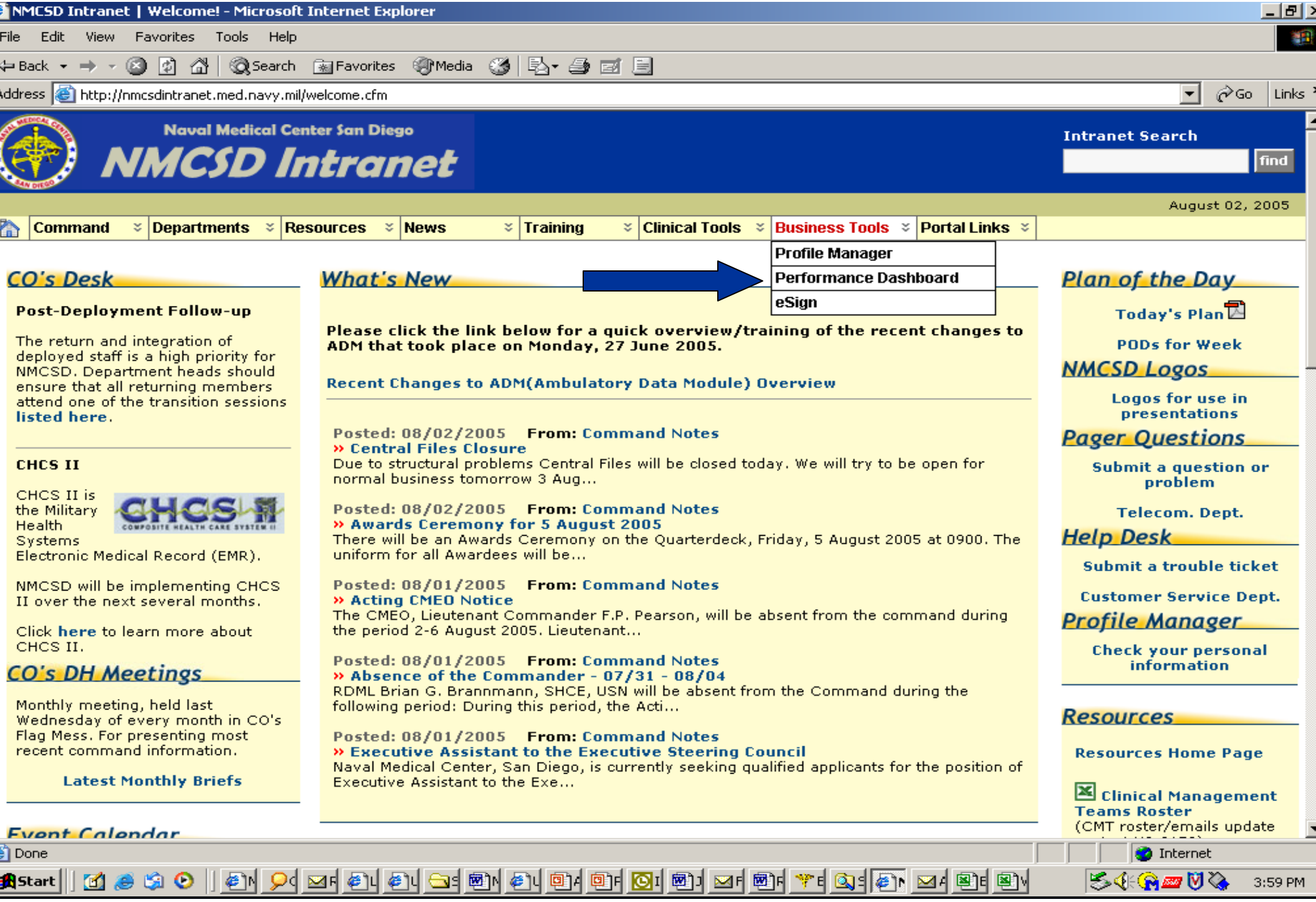
FY 2006 Navy Medicine Disease State And Condition Management Program Navy Specific Metric

- Percent of patients at each MTF with persistent asthma, ages 5 - 56 years, who had at least one prescription during the last 12 months for any inhaled corticosteroid
- Unlike the HEDIS® benchmarks which fluctuates annually, this goal will remain set at the current Navy Medicine 90th percentile
- Data for these metrics will be obtained from the PHN clinical information system
- Other PHN capabilities for asthma include
  - Healthcare utilization and prescription counts
  - Clinical performance data for the MTF and branch clinics are displayed in dashboard format to allow comparisons with other MTFs, Navy averages and national HEDIS® benchmarks
  - The PHN dashboard requires no password and is available at: https://dataquality.med.navy.mil/reconcile/pophealth/

Report Number	Topic
1	**Count and percent of current Asthmatic patients enrolled to DMIS 0029**
2	**Asthmatics who did receive LTC meds/12 mos**
3	**Asthmatics who did not receive 1 Rx for LTC meds/12 mos**
4	**Asthmatics with an ED visit for asthma as the primary diagnosis/ 12 mos**
5	**Asthmatics with an asthma follow-up appt following an asthma ED visit/12 mos**
6	**Asthmatics without an asthma follow-up appt following an asthma ED visit/12 mos**
7	**Asthmatics with an admission for asthma as the primary diagnosis/ 1mos**
8	**Asthmatics with an asthma follow-up appt following an asthma hospitalization/1mos**
9	**Asthmatics without an asthma follow-up appt following an asthma hospitalization/12 mos**
10	**Asthmatics who did receive an influenza vaccination /12 mos**
11	**Asthmatics who did NOT receive an influenza vaccination /12 mos**
12	**Asthmatics with NO healthcare contact/12 mos**
13	**Asthmatics who received >=3 systemic steroids /12 mos**
14	**Asthmatics only, Count of refills for B-2 agonists/12 mos**
15	**Asthmatics >6 years who did receive spirometry at least 1 time/2 years**
16	**Asthmatics >6 years who did NOT receive spirometry at least 1 time yrs**
17	**Asthmatics who received >=1 Rx for liquid Albuterol/12mos**
18	**Asthmatics who received >=2 CXRs /12 mos**
19	**Asthmatics dispensed an ICS/12 mos**
20	**Asthmatics NOT dispensed an ICS/1mos**


Chilly Dog?????

Command Performance Dashboard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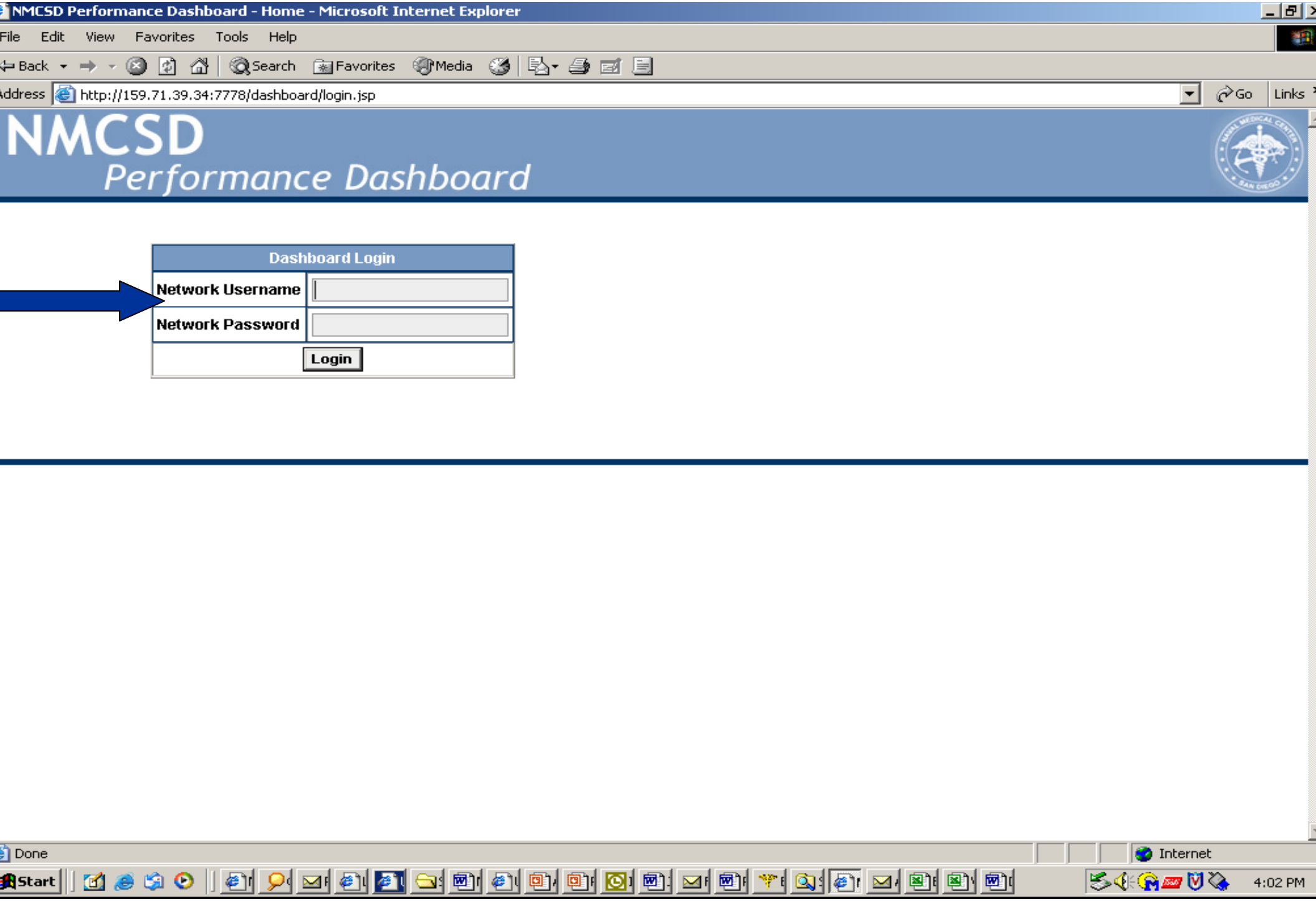
Go Links
Naval Medical Center San Diego
NMCSD Intranet
Intranet Search
find
August 02, 2005
Command Departments Resources News Training Clinical Tools Business Tools Portal Links
Profile Manager
Performance Dashboard
eSign
CO's Desk
Post-Deployment Follow-up
The return and integration of deployed staff is a high priority for NMCSD. Department heads should ensure that all returning members attend one of the transition sessions listed here.
CHCS II
CHCS II is the Military Health Systems Electronic Medical Record (EMR).
NMCSD will be implementing CHCS II over the next several months.
Click here to learn more about CHCS II.
CO's DH Meetings
Monthly meeting, held last Wednesday of every month in CO's Flag Mess. For presenting most recent command information.
Latest Monthly Briefs
Event Calendar
What's New
Please click the link below for a quick overview/training of the recent changes to ADM that took place on Monday, 27 June 2005.
Recent Changes to ADM(Ambulatory Data Module) Overview
Posted: 08/02/2005 From: Command Notes
» Central Files Closure
Due to structural problems Central Files will be closed today. We will try to be open for normal business tomorrow 3 Aug...
Posted: 08/02/2005 From: Command Notes
» Awards Ceremony for 5 August 2005
There will be an Awards Ceremony on the Quarterdeck, Friday, 5 August 2005 at 0900. The uniform for all Awardees will be...
Posted: 08/01/2005 From: Command Notes
» Acting CMEO Notice
The CMEO, Lieutenant Commander F.P. Pearson, will be absent from the command during the period 2-6 August 2005. Lieutenant...
Posted: 08/01/2005 From: Command Notes
» Absence of the Commander - 07/31 - 08/04
RDML Brian G. Brannmann, SHCE, USN will be absent from the Command during the following period: During this period, the Acti...
Posted: 08/01/2005 From: Command Notes
» Executive Assistant to the Executive Steering Council
Naval Medical Center, San Diego, is currently seeking qualified applicants for the position of Executive Assistant to the Exe...
Plan of the Day
Today's Plan
PODs for Week
NMCSD Logos
Logos for use in presentations
Pager Questions
Submit a question or problem
Telecom. Dept.
Help Desk
Submit a trouble ticket
Customer Service Dept.
Profile Manager
Check your personal information
Resources
Resources Home Page
Clinical Management Teams Roster
(CMT roster/emails update
Done
Internet
Start
3:59 PM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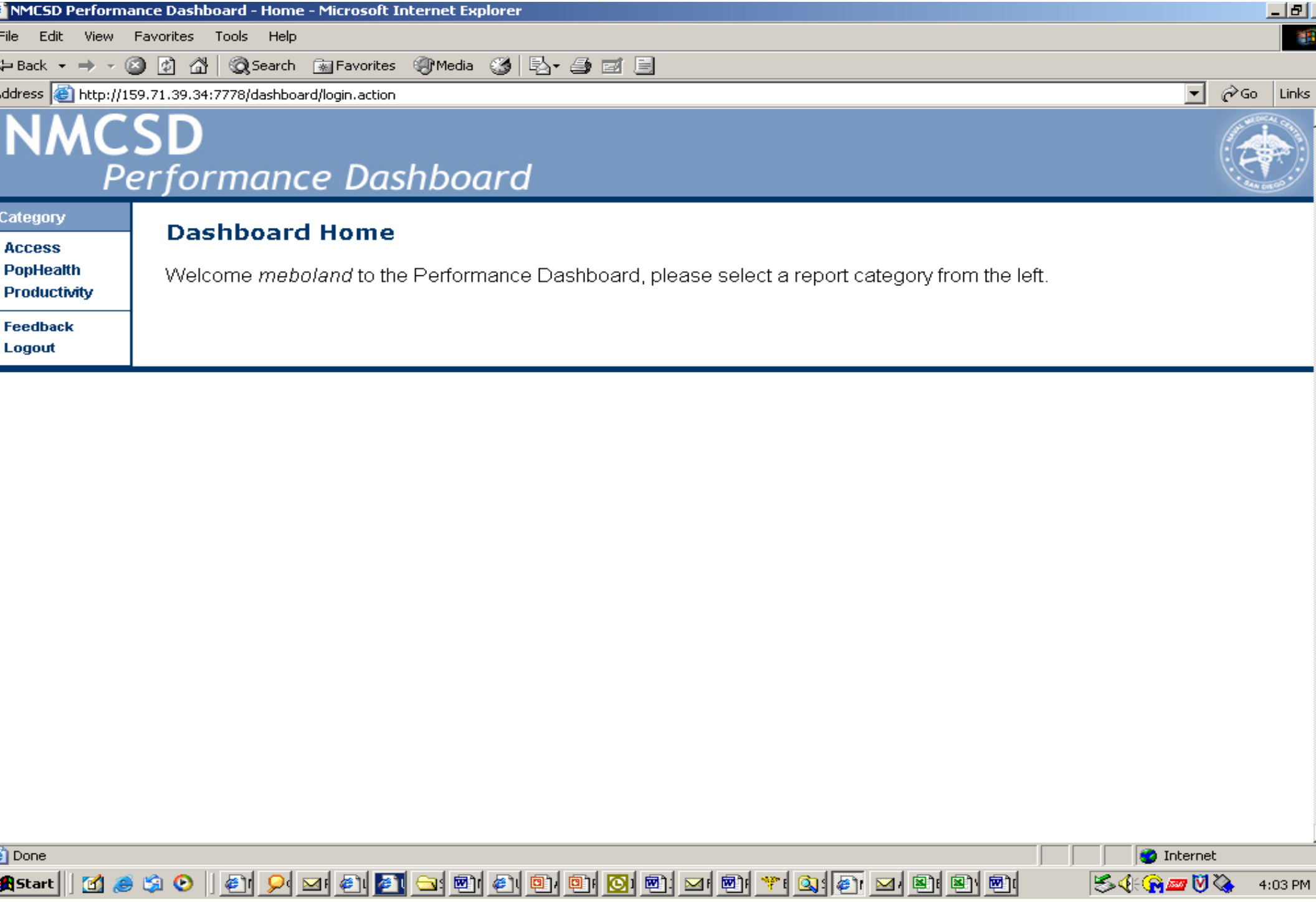
NMCSD
Performance Dashboard
Dashboard Login
Network Username
Network Password
Login
Done
Internet
Start
4:02 PM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Address http://159.71.39.34:7778/dashboard/login.action
Go Links
NMCSD
Performance Dashboard
Category
Access
PopHealth
Productivity
Feedback
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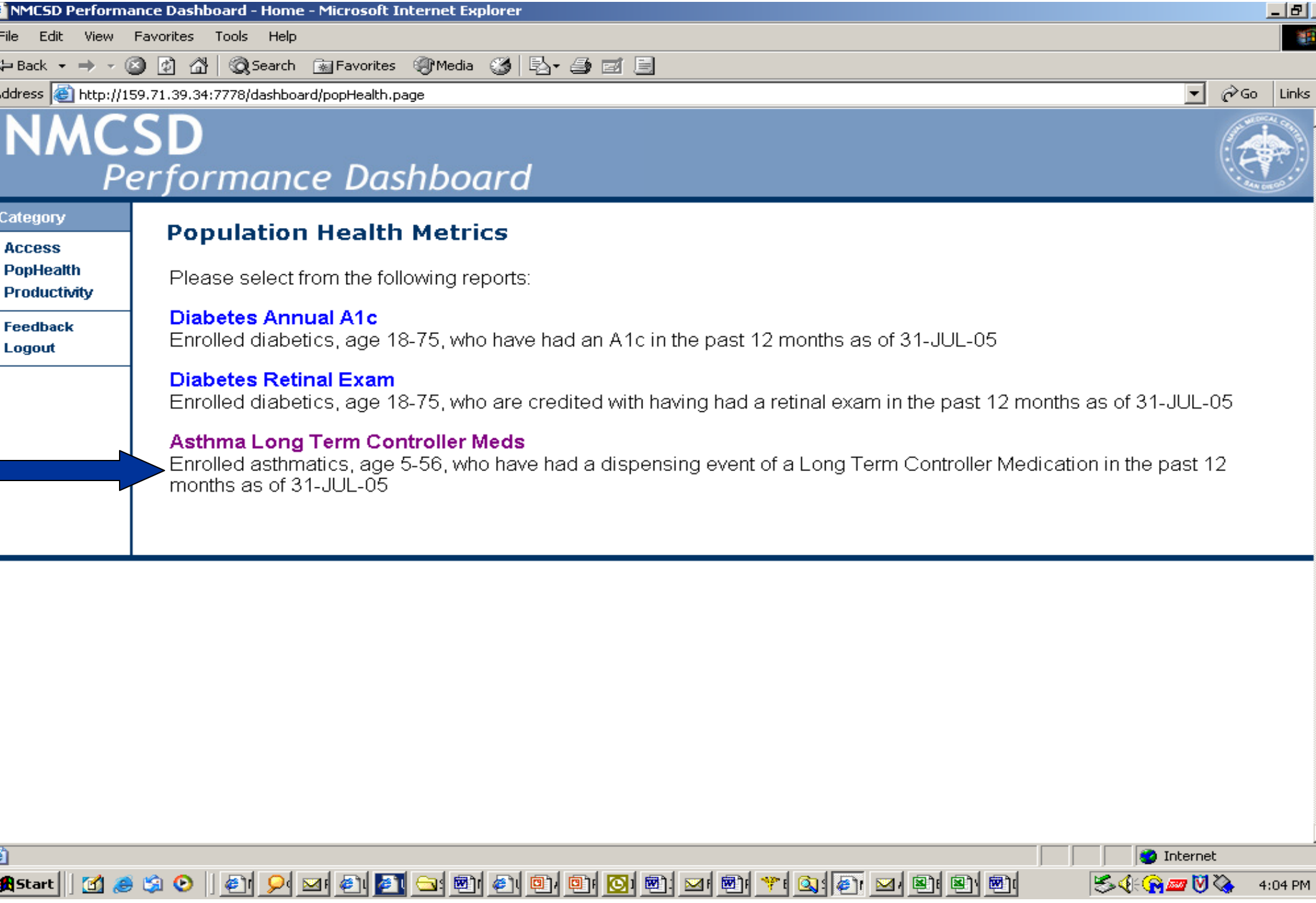
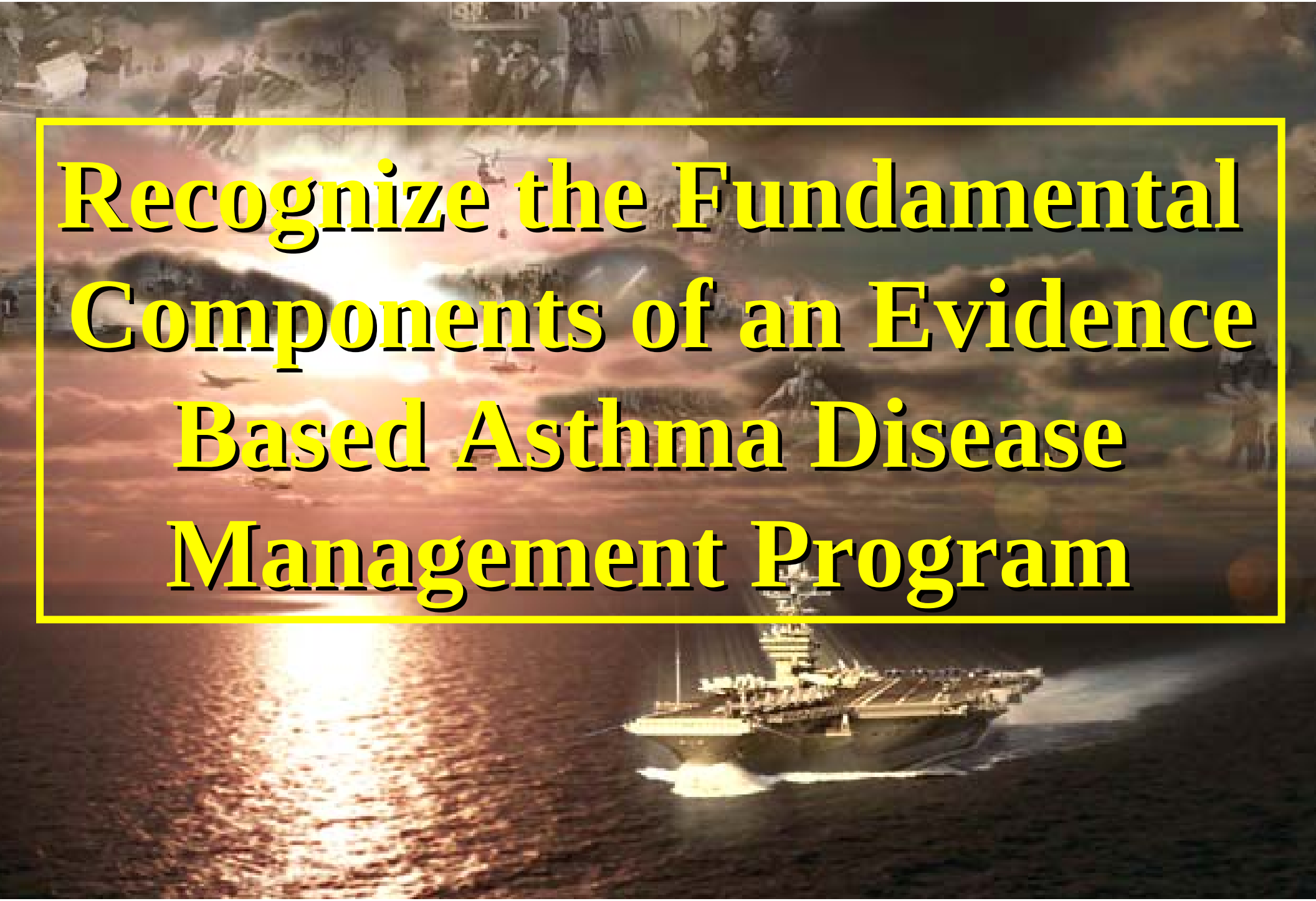
Dashboard Home
Welcome meboland to the Performance Dashboard, please select a report category from the left.
Done
Internet
Start
4:03 PM


NMCSD Performance Dashboard - Home - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://159.71.39.34:7778/dashboard/popHealth.page
Go Links
NMCSD
Performance Dashboard
Category
Access
PopHealth
Productivity
Feedback
Logout
Population Health Metrics
Please select from the following reports:
Diabetes Annual A1c
Enrolled diabetics, age 18-75, who have had an A1c in the past 12 months as of 31-JUL-05
Diabetes Retinal Exam
Enrolled diabetics, age 18-75, who are credited with having had a retinal exam in the past 12 months as of 31-JUL-05
Asthma Long Term Controller Meds
Enrolled asthmatics, age 5-56, who have had a dispensing event of a Long Term Controller Medication in the past 12 months as of 31-JUL-05
Internet
Start
4:04 PM

Filter By Place of Care: Show Summary | Filter Report

DMIS	Place of Care	# of Asthmatics dispensed a LTC Med	Total # of Asthmatics	% of Asthmatics with a LTC	# of Asthmatics Needing a LTC Med to Achieve 90th Percentile
0232	MIRAMAR PRIMARY CARE	3	7	42.9	3
0029	ADOLESCENT, CLINIC	50	86	58.1	18
0029	PEDS CONTINUITY CLINIC	30	51	58.8	10
0029	PEDIATRICS, GENERAL	197	315	62.5	49
0231	PRIMARY CARE GROUP CORONADO	58	92	63.0	14
0029	MILITARY HEALTH CENTER	29	45	64.4	7
6215	TOC CHULA VISTA PRIMARY CARE	351	540	65.0	71
0232	MIRAMAR, FAMILY PRACTICE	100	146	68.5	14
0407	FAM PRAC-PRIMARY CARE GRP-NTC	91	132	68.9	12
6207	TOC CLMT MESA PRIMARY CARE	267	376	71.0	27
0230	MCRD STAFF SICK CALL	5	7	71.4	1
0233	NAB PRIMARY CARE	5	7	71.4	1
0029	PCC PRIMARY CARE PART	160	220	72.7	12
0701	NAVSTA PRIMARY CARE	29	38	76.3	1
0029	INTERNAL MED	31	39	79.5	0
0239	GENERAL CLINIC, ELCENTRO	12	15	80.0	0
0414	SICK CALL, SCI	1	1	100.0	0


Why Toddlers Shouldn't Play
with Indelible Markers


Recognize the Fundamental Components of an Evidence Based Asthma Disease Management Program

Asthma

- Very common (1 in every 15)
- Often misdiagnosed
- Under-treated
- Associated with high urgent care usage
- Responsible for many sleepless nights
- Most common cause of school absences
- Common reason for parents to miss work
- An unnecessary reason to limit daily activities
- TREATABLE !!!!!

Why Diagnose Asthma ?

- Therapy is effective in both relieving and preventing symptoms
- Delay in starting anti-inflammatory therapy may reduce achievable improvement in airway caliber
- Even mild disease increases risk of severe morbidity and mortality

Asthma Often Begins in Childhood

- Up to 80% of children with asthma develop symptoms before age 5 years
- Factors associated with early onset
  - Allergy
  - Family history of asthma and/or allergy
  - Perinatal exposure to tobacco smoke
  - Viral respiratory infections
  - Smaller airways at birth
  - Male gender
  - Low birth weight

Another Way to Spending Quality Time with a Loved One !!!!!

How do You Diagnose Asthma ?

- Episodic symptoms of airflow obstruction
  - Cough
  - Wheezing
  - Shortness of breath
  - Dyspnea
  - Chest tightness
- Airflow limitation is at least partially reversible
- Alternative diagnoses are excluded

How do You Diagnose Asthma ?

- Detailed history focusing on symptom patterns
- Physical focusing on upper respiratory tract, chest, skin
- Reversibility on spirometry is gold standard
- In younger children clinical judgment and /or response to asthma treatment may make diagnosis

What Delays Diagnosis in Children?

- Nonverbal
- Symptom reports by parents may be unreliable
  - Daycare
  - Unobserved play at home
- Symptoms episodic, separated by long quiescent intervals
- Unable to undergo routine pulmonary function testing

What Delays Diagnosis?

- Physician may defer labeling the condition until symptoms are frequent and severe
- Fear of parental negative reaction
- Need for lengthy discussion
- Asthma label may limit access to health insurance, negative impact on career options
- Not patient's primary care manager

Consequences of Delayed Diagnosis

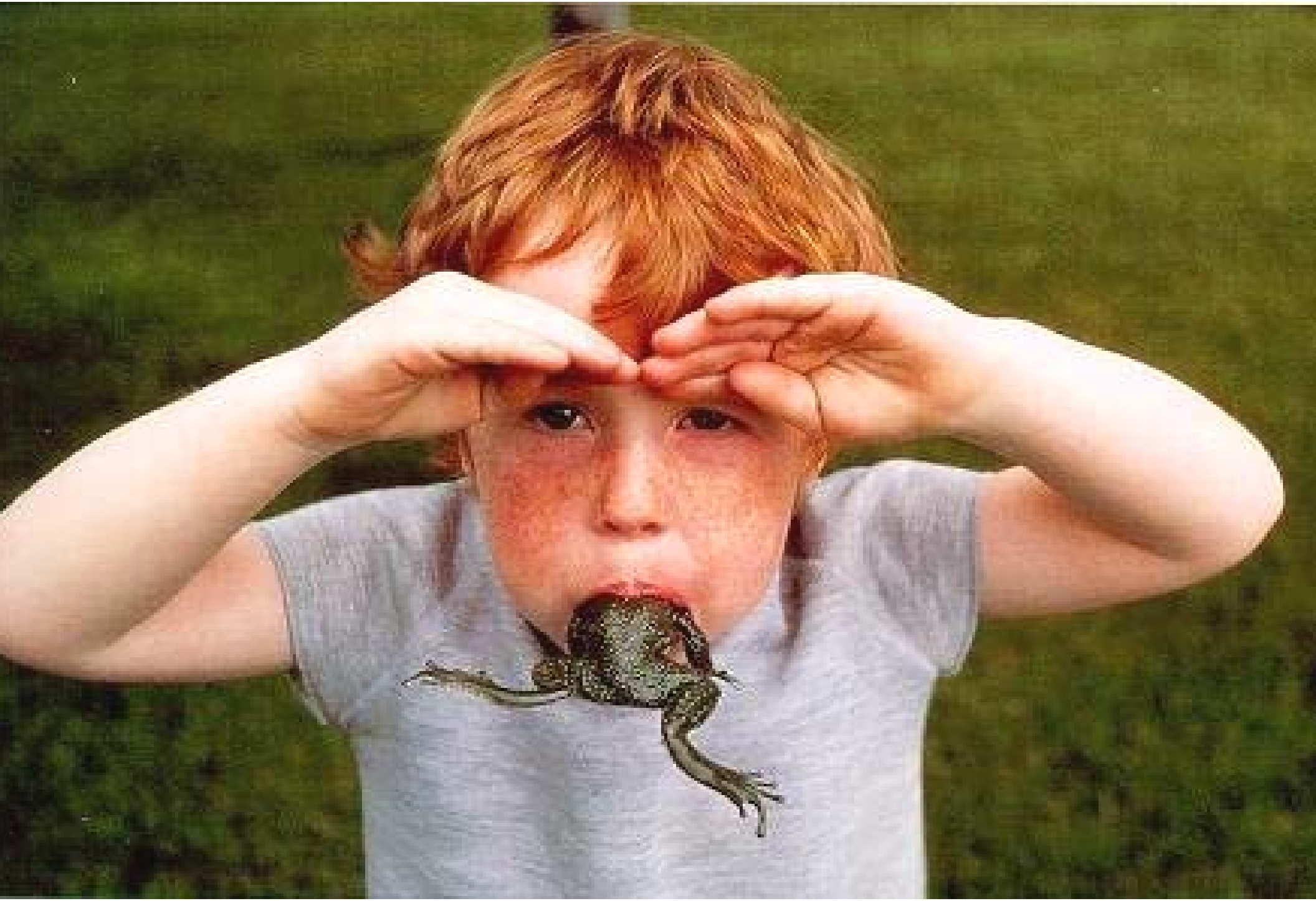
- Likely to receive ineffective antibiotics, cough suppressants instead of anti-inflammatories
- The use of euphemisms confuse parents
- Children have persistent symptoms, school absence, miss out on physical activities
- Parental anxiety
- Risk of irreversible airflow obstruction

When Should Wheezing be Called "Asthma"?

- When wheezing becomes recurrent
- When other wheezing conditions have been excluded
- When a number of known risk factors are present
- When the patient responds to anti-asthma therapy

Reactive Airway Disease (RAD)

- ISN'T synonymous with asthma
- Non specific term that has no clinical meaning
- Unhelpful, confusing, and potentially harmful
- Airway hyper-reactivity is a characteristic of asthma….but also of many other lung diseases
- RAD describes physiological abnormality of the airway….not a disease diagnosis




Establish Clinical Pattern
of Disease

Classification of Asthma Severity: Clinical Features Before Treatment

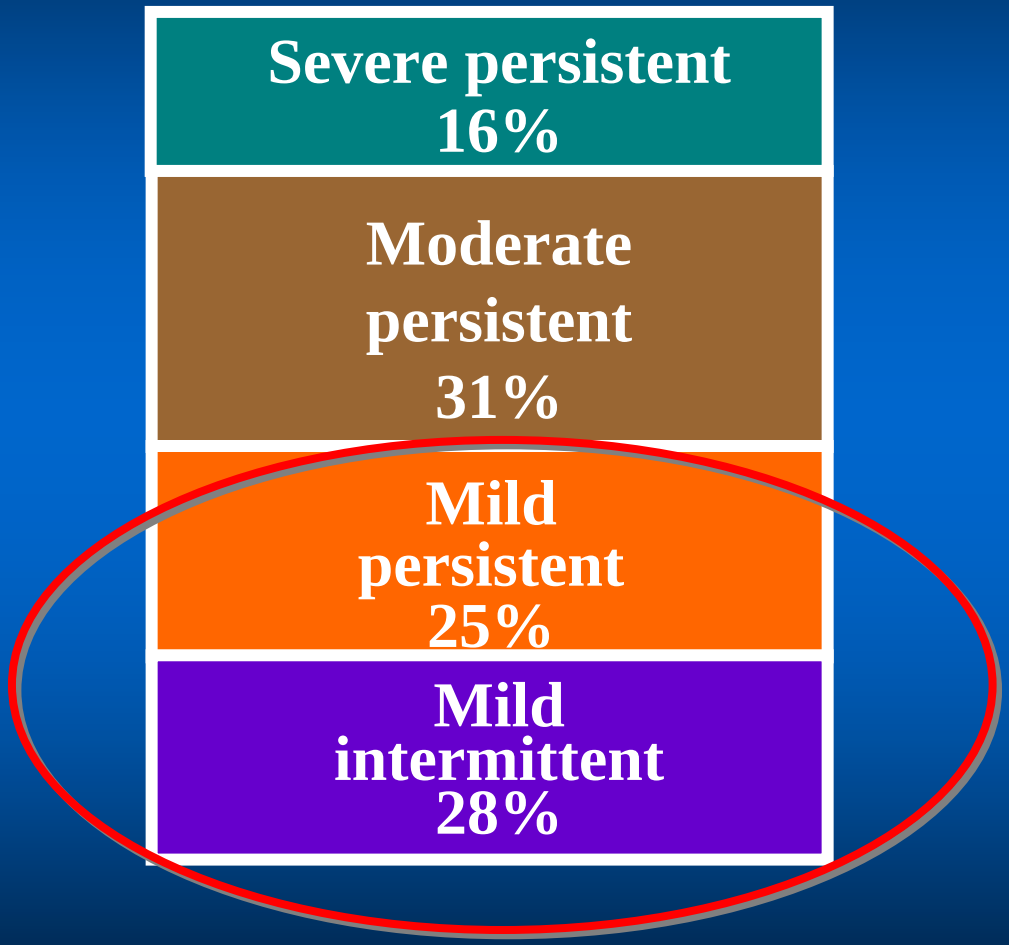
	Days With Symptoms	Nights With Symptoms	PEF or FEV_1*	PEF Variablity
Step 4 Severe Persistent	Continual	Frequent	≤60%	>30%
Step 3 Moderate Persistent	Daily	≥5/month	>60%- <80%	>30%
Step 2 Mild Persistent	3-6/week	3-4/month	≥80%	20-30%
Step 1 Mild Intermittent	≤2/week	≤2/month	≥80%	<20%

* Percent predicted values for forced expiratory volume in 1 second (FEV_1) and percent of personal best for peak expiratory flow (PEF) (relevant for children 6 years old or older who can use these devices).

NOTES:

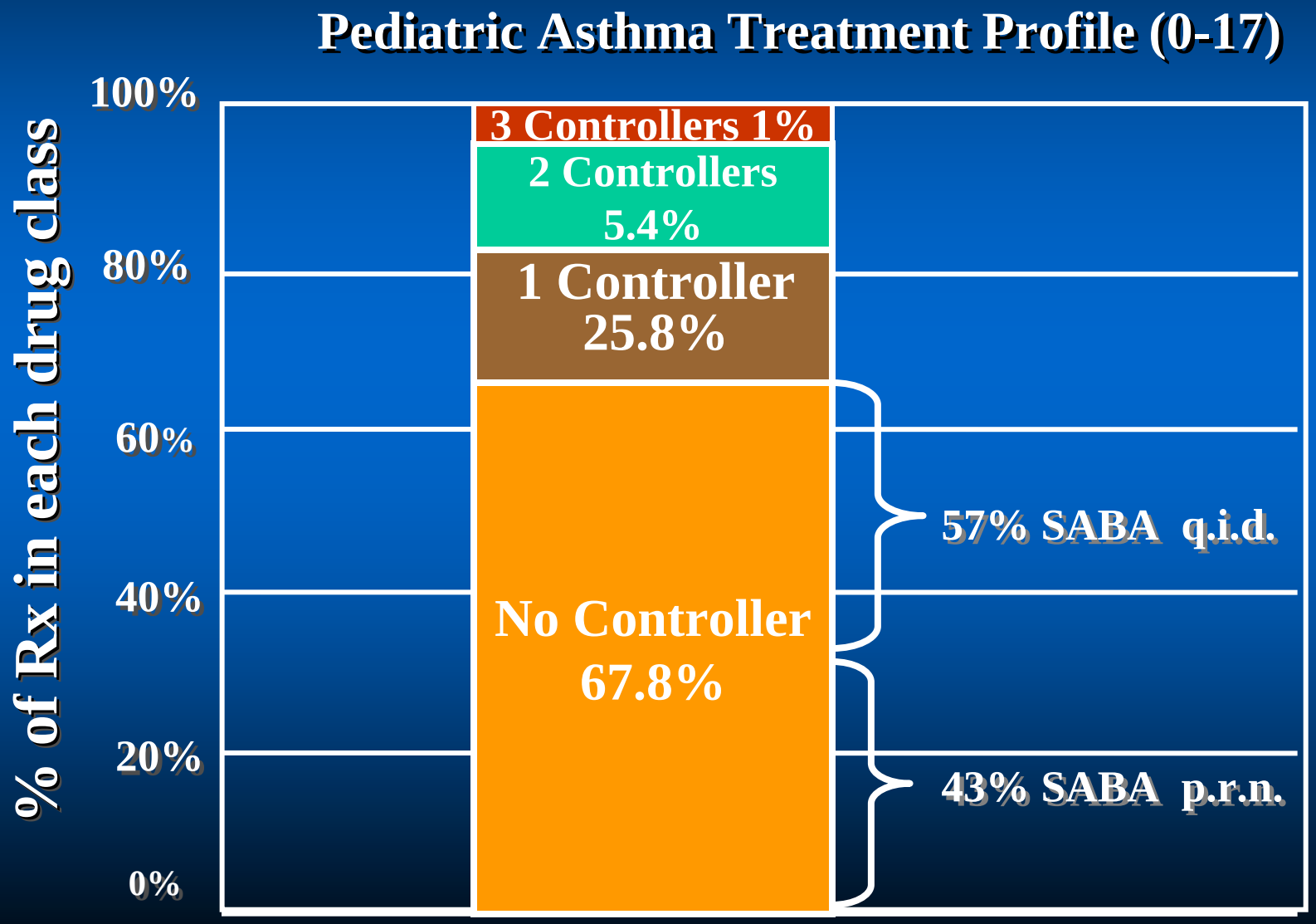
- Patients should be assigned to the most severe step in which *any* feature occurs. Clinical features for individual patients may overlap across steps.
- An individual's classification may change over time.
- Patients at any level of severity of chronic asthma can have mild, moderate, or severe exacerbations of asthma. Some patients with intermittent asthma experience severe and life-threatening exacerbations separated by long periods of normal lung function and no symptoms.
- Patients with two or more asthma exacerbations per week (i.e., progressively worsening symptoms that may last hours or days) tend to have moderate-to-severe persistent asthma.

Physician Perceived Severity
All Asthma Patients



Asthma Physician Market Dynamics Study 3/99-10/99

Pediatric Prescriptions are Dominated by Short-acting B_2 Agonists



Severity Classification Pearls

- Ask the right questions and the patient will tell you their severity level
  - How many nights per month do you cough?
  - How many times during the day per week do you have asthma symptoms?
  - How long does an albuterol inhaler last?
  - Show me your peak flow diary…..what is the am-pm variability

Severity Classification Pearls

- Asthma severity can vary over time
- Any patient with asthma may have a severe exacerbation
- Classify severity according to clinical features BEFORE THERAPY
- Only 1 feature required to move to next severity level
- Goal ON THERAPY is to maintain clinical features of mild persistent asthma

Patients have Persistent Asthma if The "RULES OF TWO"™* Applies…

- Use a rescue inhaler more than 2 times per week
- Awaken at night due to asthma more than 2 times per month
- Refill a rescue inhaler prescription more than 2 times per year©

*"RULES OF TWO"™ is a trademark of the Baylor Health Care System.

Goals of Long Term Treatment

- Preventing chronic and troublesome symptoms
- Maintaining “normal” pulmonary function
- Maintaining normal activity levels (including exercise and other physical activities)
- Preventing recurrent exacerbations and minimizing ED visits and hospitalizations
- Provide optimal pharmacotherapy with minimal or no adverse effects
- Meeting patients’ and families’ expectations of and satisfaction with asthma care


Worth1000.com


Address the Issues
Around Long Term
Control Medications

Barriers to Using the Correct Control Medication

- Failure to diagnose asthma
- Failure to assign correct severity category
- Choosing the wrong controller
- Unfamiliar with evidence supporting efficacy of ICS
- Side effect concerns
- Delivery issues


Teach and Reassess Medication Delivery Technique…….Trust but Verify

Barriers to Using the Correct Control Medication

- Caregiver/patient adherence
- Failure to increase control med dosage or add second controller in face of poor control
- Relying on recurrent oral steroid bursts for control
- No time / educational resources to deploy comprehensive treatment plan

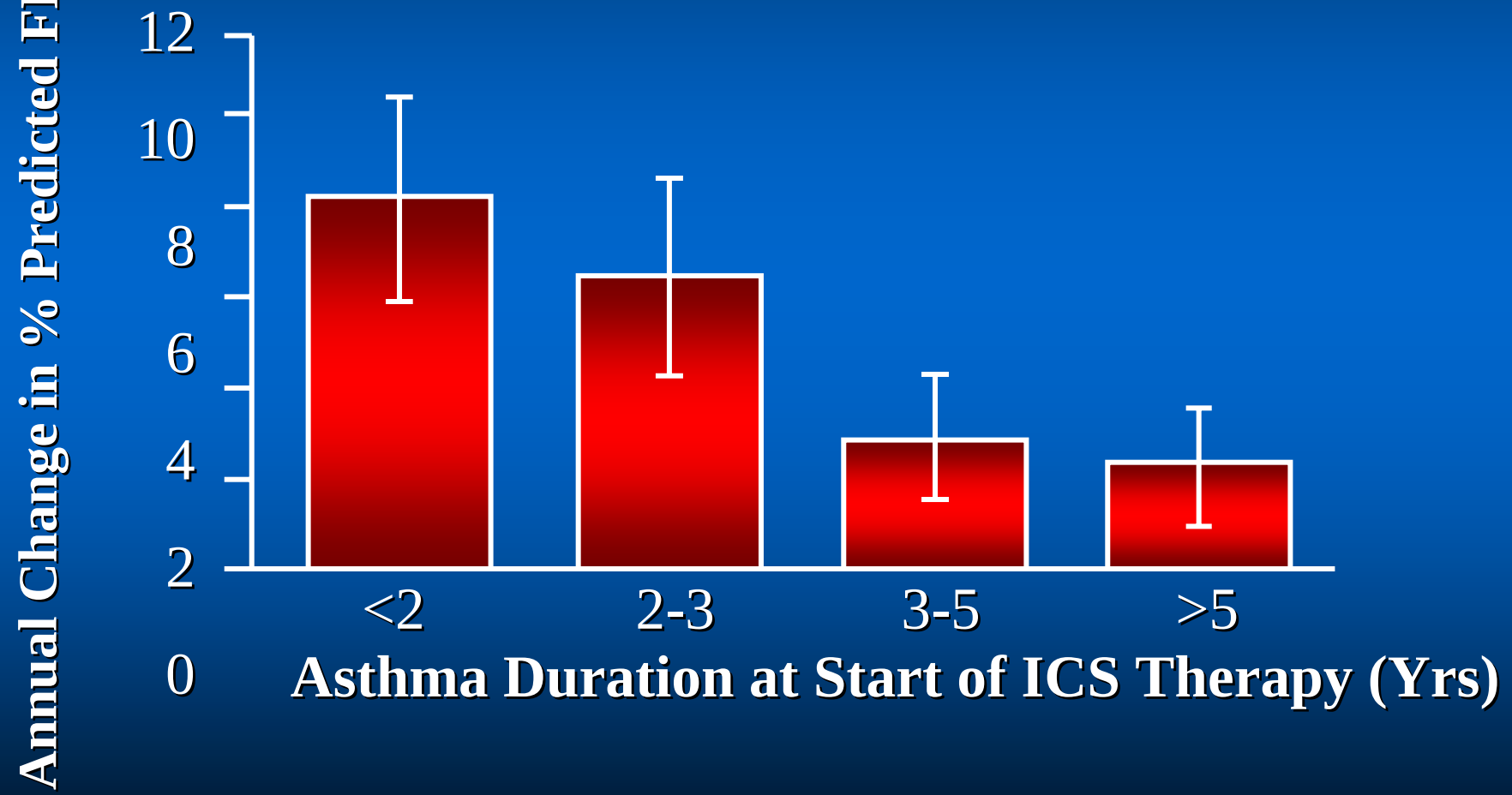

SIR... THE BALDNESS PILL IS NOT A SUPPOSITORY.


Steroid Phobia

Soothing Parents Fears About ICS

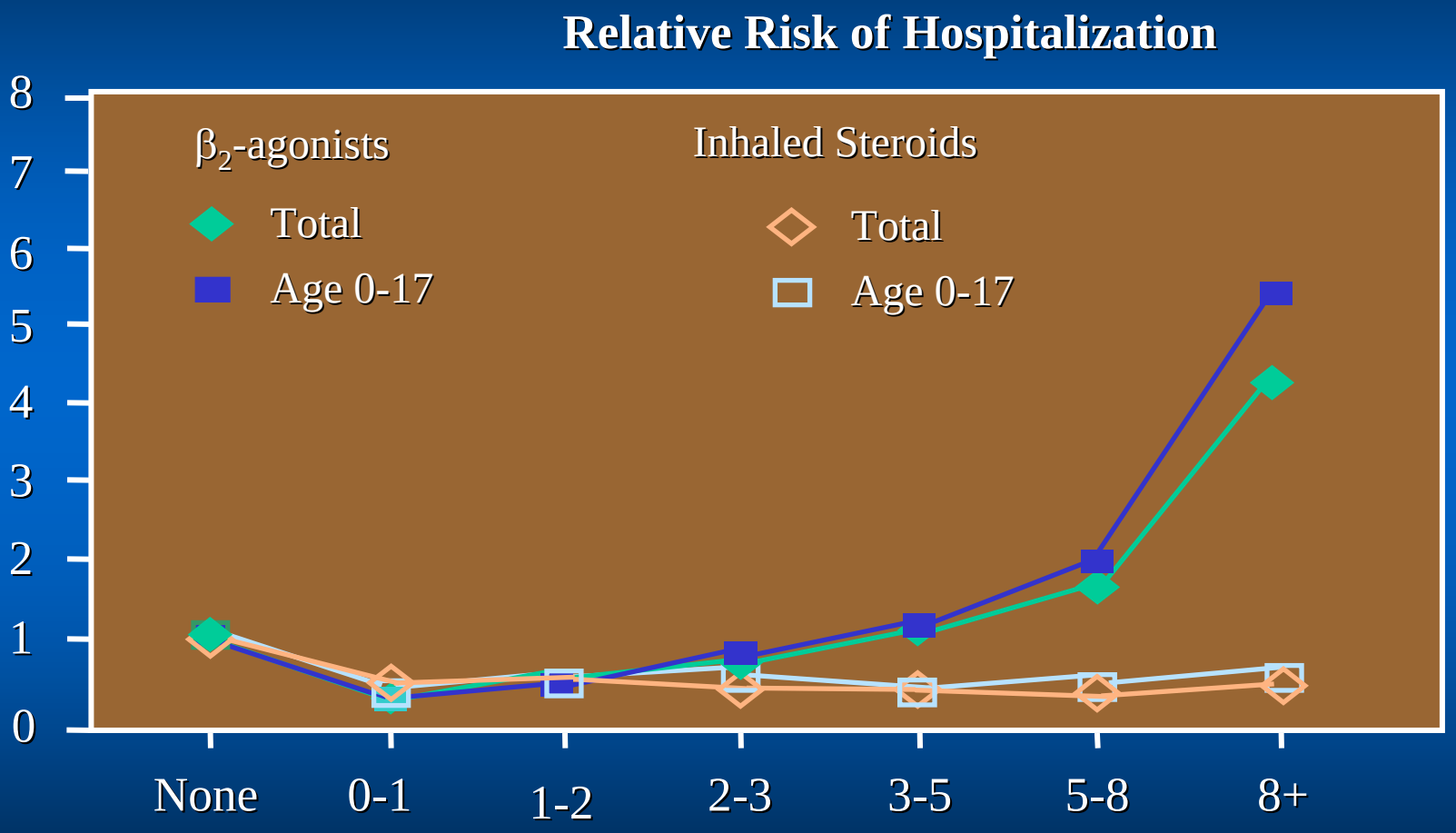
- Typical prednisone burst for asthma exacerbation is 40 mg /day for 5 days
- 200 mg = 200,000 ug (all –bioavailable)
- Equivalent to:
  - 200 days Pulmicort Respules, 0.5 mg BID
  - 400 days Pulmicort Respules, .25 mg BID
  - 500 days Azmacort, 200 ug BID
  - 454 days Flovent, 220 ug BID
  - 400 days Advair, 250/50 ug BID
- Only 1-6% of ICS bio-available

Mean Annual Increase in FEV_1 During Inhaled Steroid Therapy



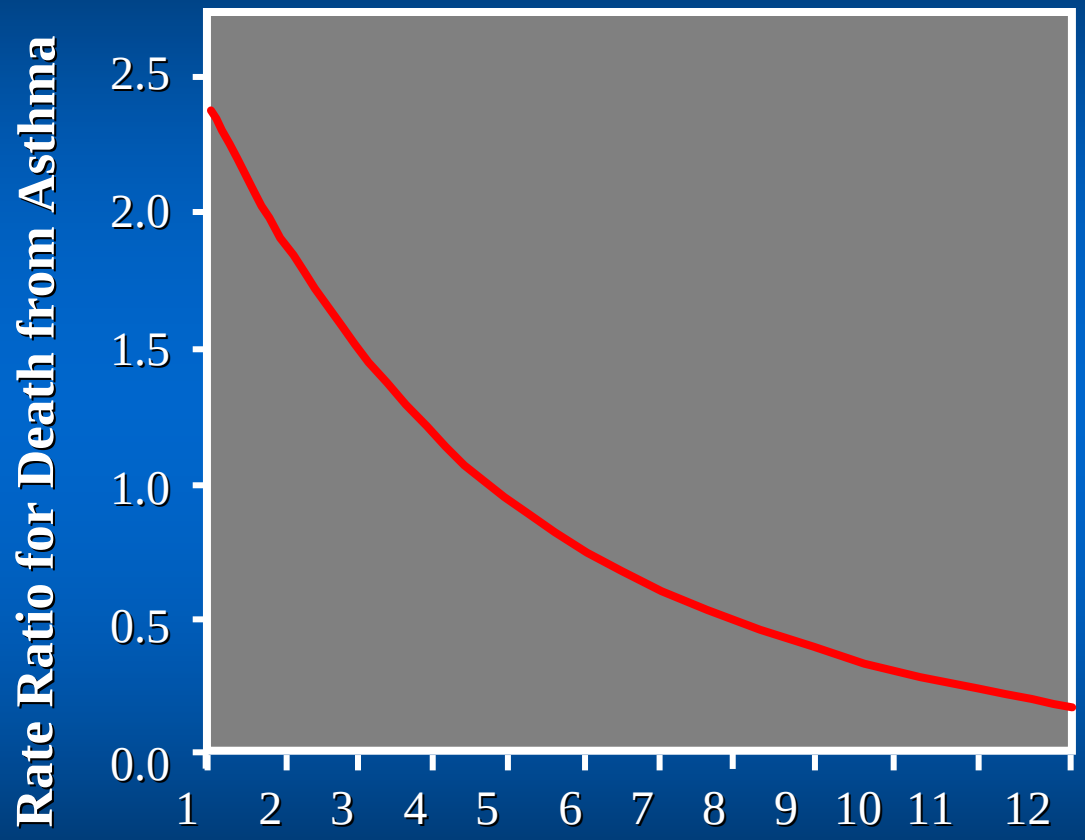
Agertoft L, Pedersen S. *Respir Med* 1994;88:373-381.

ICS May Decrease the Risk of Asthma Hospitalizations in Children



Donahue et al. *JAMA*. 1997;277:887-891.

Low-dose ICS and the Prevention of Death from Asthma



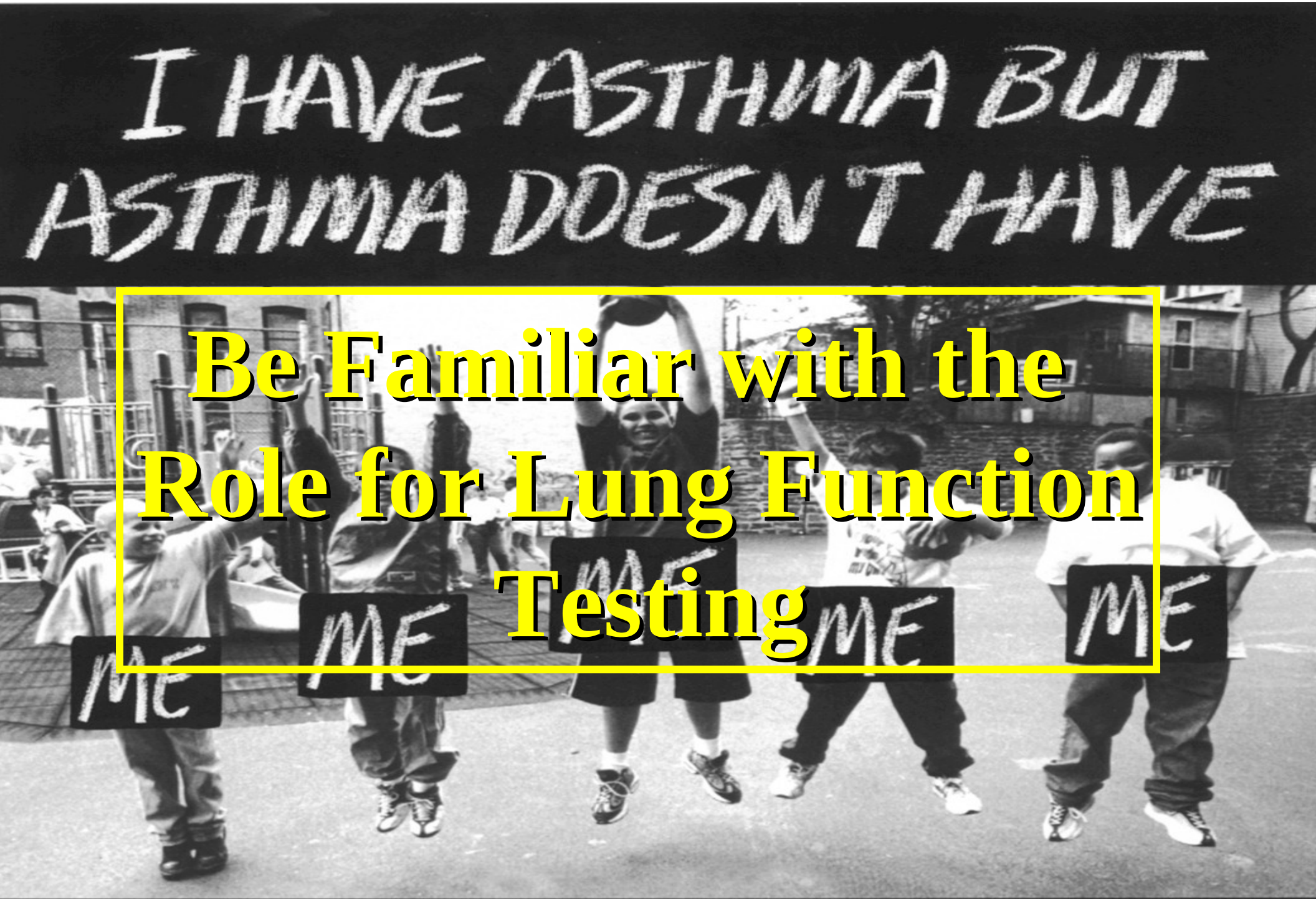
Suissa S et al. *N Engl J Med.* 2000;343:332-336.

Inhaled Corticosteroids The Most Effective Long-term Controller Medications for Asthma

- The daily use of ICS results in the following:
  - Asthma symptoms will diminish. Improvement will continue gradually
  - Occurrence of severe exacerbations is greatly reduced
  - Use of quick-relief medication decreases
  - Lung function improves significantly, as measured by PEF, FEV_1, and airway hyper-responsiveness
  - Problems due to asthma may return if patients stop taking ICS

Practical Guide for the Diagnosis and Management of Asthma. 1997. *NIH Publication* No. 97-4053.

International Medical Alliance
2005 Ecuador Mission



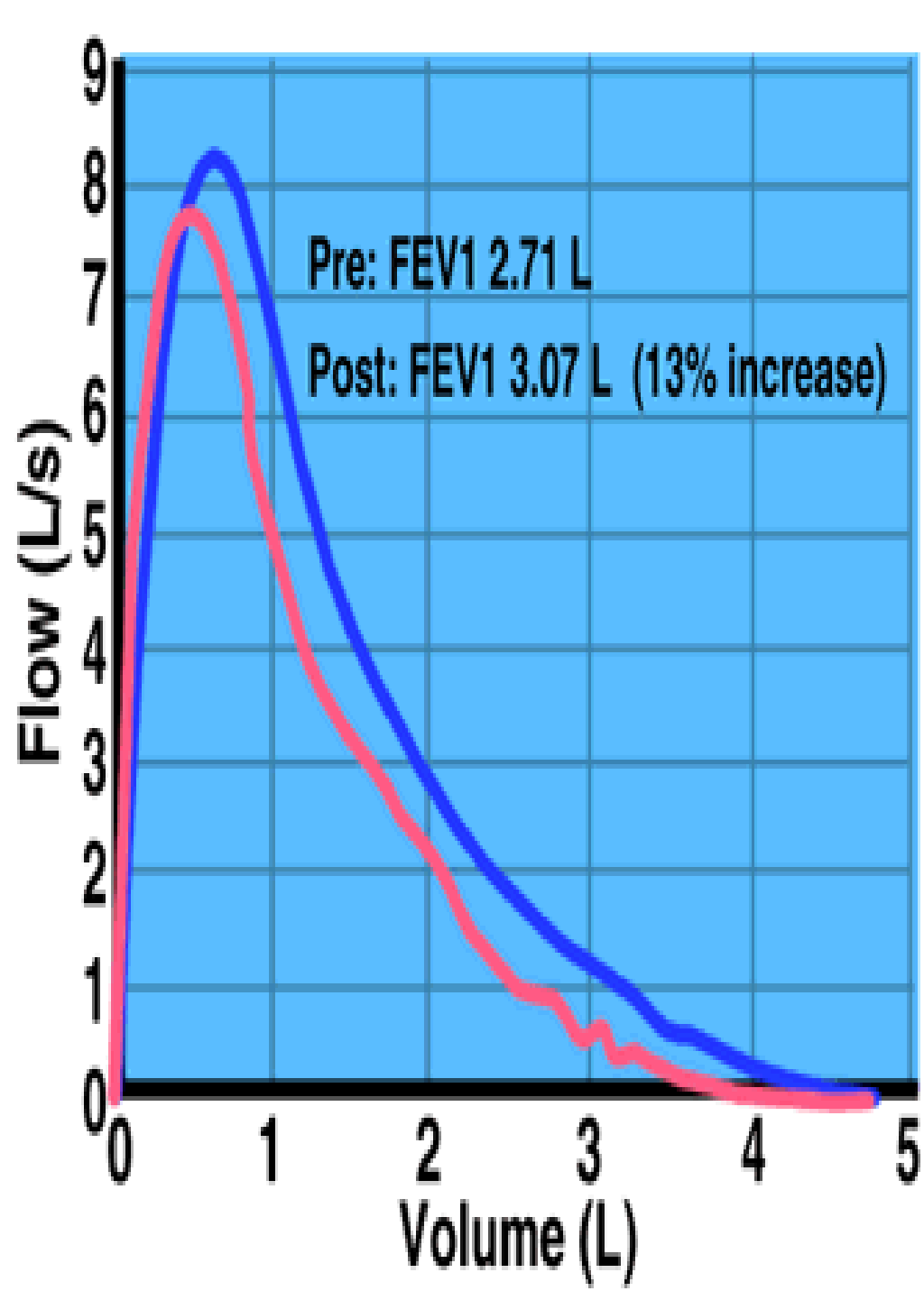
Be Familiar with the Role for Lung Function Testing

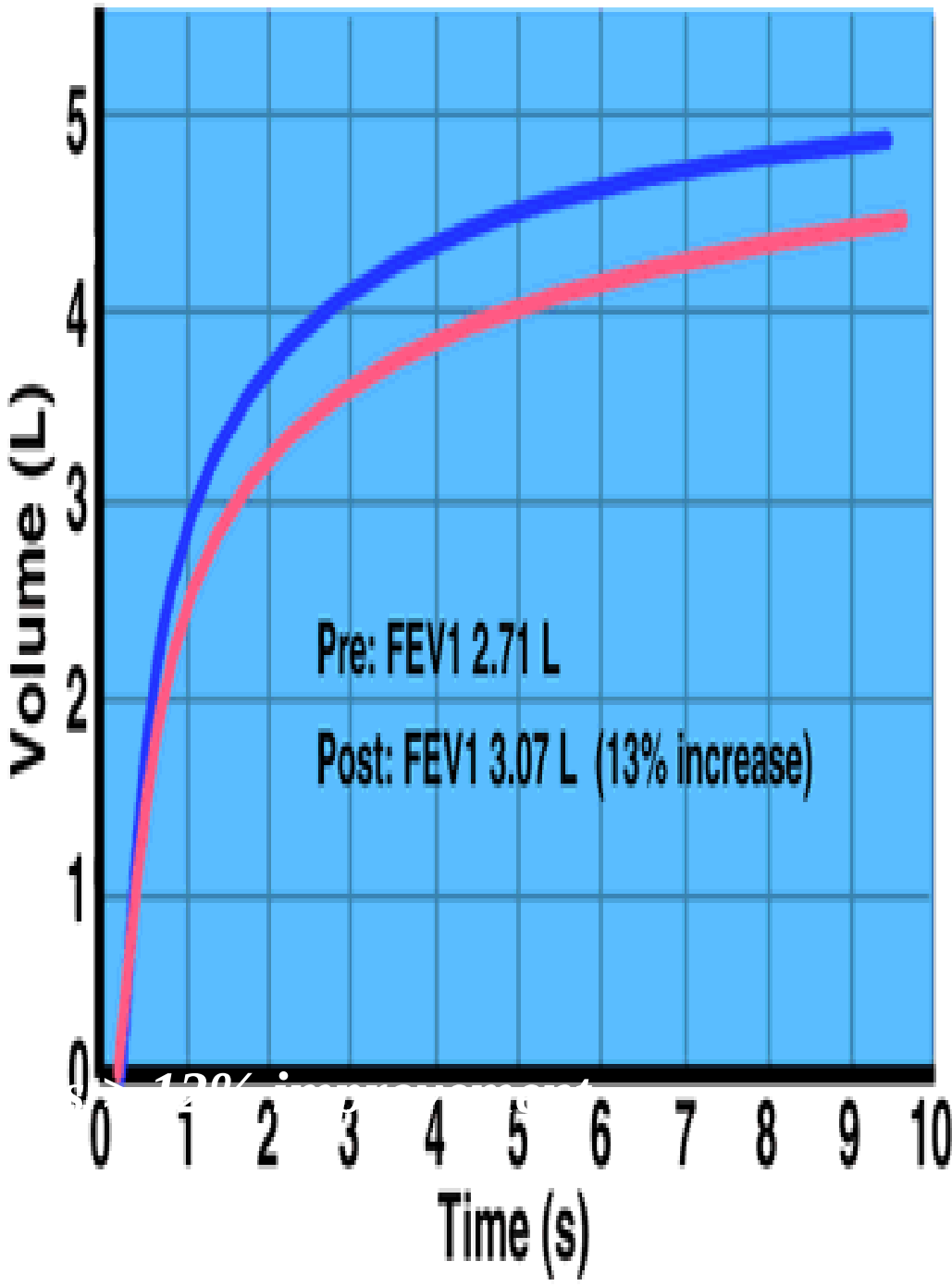
Lung Function Testing

- Spirometry detects the presence of airflow obstruction, defines the severity of airflow limitation, and aids in the differential diagnosis of asthma
- When physical exam findings are not present, mild asthma may be detected by performing spirometry, especially with pre- and post bronchodilator evaluation

Lung Function Testing

- Airflow obstruction can generally be determined by using the forced expiratory volume in the first second (FEV_1) and the forced vital capacity (FVC), and the FEV_1/FVC ratio
- Peak flow should not be used to diagnose asthma because it is less reliable due to poor reproducibility and dependence on patient effort
- Remember there is no single test sufficient or adequate to diagnose asthma


Flow (L/s)
Volume (L)
Pre: FEV1 2.71 L
Post: FEV1 3.07 L (13% increase)


Volume (L)
Time (s)
Pre: FEV1 2.71 L
Post: FEV1 3.07 L (13% increase)

Role of Spirometry for Monitoring Asthma

- Every patient capable of spirometry should have testing performed at least every 1-2 years
- All MTFs where asthma care is provided should have access to same day spirometry
- Spirometry also indicated in the following situations:
  - After a change in control therapy to document response
  - When symptom history suggests poor control


The Navy is Looking for
a Few Good Nurses

Peak Flow Meter

Peak Flow Monitoring

- Simple,quantitative, reproducible measure of the existence and severity of airflow obstruction
- Tool for ongoing monitoring, not diagnosis
- Use for short-term monitoring, managing exacerbations, and daily long-term monitoring
- Patient’s personal best is the reference value

Peak Flow Monitoring

- Patients with moderate to severe persistent asthma need to learn how to monitor their PEF
- PEF monitoring during exacerbations to determine severity and guide treatment in home, clinic and ED
- Long-term daily PEF monitoring is helpful in managing moderate-severe patients to detect early changes in disease status and responses to changes in therapy

Improving Asthma Management with Peak Flow Meters

- Mapping diurnal variations
- Predicting exacerbations
- Improving communication
- Facilitating self-management
- Evaluating therapeutic response
- Help identify triggers
- Detect gradual decline in lung function


Mick Jagger's Baby Picture


Understand the Importance of Written Home Action Plans

NAME_____

DATE:_____

PCM: _____

Department of Pediatrics
Division of Pulmonary Medicine

34800 Bob Wilson Dr.
San Diego, Ca. 92134-5000
619-532-6883 (Phone)
619-532-9582 (Fax)

Important Peak Flow Numbers

- Personal Best (PB)
- 80% PB
- 50% PB

When to Monitor Peak Flows (PF)

- In the morning, before taking medications
- Late afternoon (3-5 PM)
- Before and 5-15 minutes after Albuterol treatments
- With increased respiratory symptoms

PEAK FLOW AND SYMPTOM BASED HOME ASTHMA ACTION PLAN

The Earlier an Asthma Flare-up is Recognized and Treated the More Successful The Action Plan!

GREEN ZONE (GO!): "Well"	YELLOW ZONE (CAUTION!): "Mild-Moderate Flare"	RED ZONE (DANGER!): "Severe Flare"
➢ Peak Flow between ___ to ____(80-100% PB) ➢ Able to do normal activity ➢ No symptoms of asthma episodes ➢ Usual medications control asthma	➢ Peak Flow between ___ to____ (50-80% PB) ➢ Increased asthma symptoms ➢ (chest tightness, wheeze, cough) ➢ Waking at night due to asthma ➢ Early signs of cold (runny nose, sore throat, fever)	➢ Peak Flow less than ____ (< 50% PB) ➢ Very short of breath ➢ Symptoms for more than 24 hours ➢ Usual activity severely limited ➢ Poor response to YELLOW ZONE ACTION
ACTION ➢ Continue daily asthma control medications and monitoring **My Daily Asthma Control Medicines:** 1)_____ 2)_____ 3)_____	**ACTION** ➢ Continue daily asthma control medications and monitoring PLUS RESCUE ➢ RESCUE = _____ puffs Albuterol MDI and recheck Peak Flow in 5-10 minutes ➢ REPEAT Albuterol treatments up to 3 times then ➢ FOLLOW INSTRUCTIONS FOR RESPONSE BELOW:	**ACTION** ➢ Continue daily asthma control medications and monitoring PLUS RESCUE ➢ RESCUE = _____ puffs Albuterol MDI and recheck Peak Flow in 5-10 minutes ➢ REPEAT Albuterol treatments up to 3 times then ➢ FOLLOW INSTRUCTIONS FOR RESPONSE BELOW:

GOOD RESPONSE	INCOMPLETE RESPONSE	POOR RESPONSE
➢ PF > 80% PB ➢ No wheezing ➢ Response to Albuterol lasts at least four hours. ❑ Continue Albuterol every 4 hours for __days AND: ❑ Increase Flovent® to ___ puffs BID (twice a day) for the next ___ days ❑ Notify your PCM	➢ PF remains 50-80% PB ➢ Persistent symptoms ➢ Albuterol effect lasts < 1-2 hrs. ❑ Continue Albuterol _____ puffs every hour for ____hrs AND: ❑ Prednisone / Prelone _____ (mg) by mouth, Now ❑ Contact Doctor or Clinic within ONE HOUR	➢ PF < 50% PB ➢ Marked symptoms ❑ Continue Albuterol _____ puffs every hour for___hours AND: ❑ Prednisone / Prelone___ (mg) by mouth, Now ❑ Contact Doctor or Clinic IMMEDIATELY if no contact Go to the Emergency Room or call 911

Refer to Your Tricare Prime Card for After Hours Access
Naval Medical Center SD
Emergency Room
Phone 619 532 8274

NAME_____

DATE:_____

PCM: _____

Department of Pediatrics
Division of Pulmonary Medicine

34800 Bob Wilson Dr.
San Diego, Ca. 92134-5000
619-532-6883 (Phone)
619-532-9582 (Fax)

Normal Resting Respiratory Rates by Age

Age	Green	Yellow	Red
6-12 months	< 40	40 –48	> 48
1-4 years	< 30	30 –36	> 36
4-9 years	< 25	25 – 30	> 30
9-14 years	< 23	23 – 27	> 27
> 14 years	< 22	22 – 26	> 26

RESPIRATORY RATE & SYMPTOM BASED HOME ASTHMA ACTION PLAN

The Earlier an Asthma Flare-up is Recognized and Treated the More Successful The Action Plan!

GREEN ZONE (GO!):
"Well"

- Resting Respiratory Rate Less Than _____
- Able to do normal activity
- No symptoms of asthma episodes
- Usual medications control asthma

ACTION

- Continue daily asthma control medications and monitoring

My Daily Asthma Control Medicines:
1)_____
2)_____
3)_____

YELLOW ZONE (CAUTION!):
"Mild-Moderate Flare"

- Resting Respiratory Rate _____ to _____
- Increased asthma symptoms
- (chest tightness, wheeze, cough)
- Waking at night due to asthma
- Early signs of cold (runny nose, sore throat, fever)

ACTION

- Continue daily asthma control medications and monitoring PLUS RESCUE
- RESCUE = _____ puffs Albuterol MDI and recheck Resting Respiratory Rate 5-10 minutes
- REPEAT Albuterol treatments up to 3 times then
- FOLLOW INSTRUCTIONS FOR RESPONSE BELOW:

RED ZONE (DANGER!):
"Severe Flare"

- Resting Respiratory Rate Greater Than _____
- Very short of breath
- Symptoms for more than 24 hours
- Usual activity severely limited
- Poor response to YELLOW ZONE ACTION

ACTION

- Continue daily asthma control medications and monitoring PLUS RESCUE
- RESCUE = _____ puffs Albuterol MDI and recheck Resting Respiratory Rate in 5-10 minutes
- REPEAT Albuterol treatments up to 3 times then
- FOLLOW INSTRUCTIONS FOR RESPONSE BELOW:

GOOD RESPONSE

- Resting Respiratory Rate: Less Than _____
- No wheezing
- Response to Albuterol lasts at least four hours.
- ❑ Continue Albuterol every 4 hr for __days AND:
  - ❑ Increase Flovent® to ___ puffs BID (twice a day) for the next ___ days
  - ❑ Notify your PCM

INCOMPLETE RESPONSE

- Resting Respiratory Rate: _____ to _____
- Persistent symptoms
- Albuterol effect lasts < 1-2 hrs.
- ❑ Continue Albuterol _____ puffs every hour for ____hrs AND:
  - ❑ Prednisone / Prelone _____ (mg) by mouth, Now
  - ❑ Contact Doctor or Clinic within ONE HOUR

POOR RESPONSE

- Resting Respiratory Rate > ___
- Marked symptoms
- ❑ Continue Albuterol _____ puffs every hour for___hours AND:
  - ❑ Prednisone / Prelone___ (mg) by mouth, Now
  - ❑ Contact Doctor or Clinic IMMEDIATELY if no contact Go to the Emergency Room or call 911

Refer to Your Tricare Prime Card for After Hours Access
Naval Medical Center SD
Emergency Room
Phone 619 532 8274

The Effect of a Peak Flow-Base Action Plan

- 150 asthmatics randomized to 1 of 3 groups
  - No action plan
  - Symptom-based plan
  - Peak flow-based plan
- All received asthma education

	No Plan	PF Plan	Symptom Plan
# Urgent Care Visits	55	5	45
# Admissions	12	2	6

Cowie RL, et al. Chest 1997;112:1534-38

Strategies for an Effective Home Action Plan

- Teach all patients / caregivers to
  - Monitor and recognize symptoms of early flare
  - Use objective measures plus symptoms
    - Peak flow
    - Respiratory rate
  - Understand the purpose of each medication
  - Follow written instructions
  - Contact PCP when indicated
- Review HAP in clinic / Mock scenarios
- Offer praise when used properly
- Foster a proactive patient


ALASKA


Address the Environment

Address the Environment

- Exposure of asthma patients to irritants or allergens they are sensitive to will result in asthma symptoms and precipitate exacerbations
- For patients with persistent symptoms on daily medications, the clinician should:
  - Identify allergen exposures
  - Assess sensitivity to seasonal allergens by history
  - Consider skin testing for perennial indoor allergens
- Successful long-term asthma management requires the identification and reduction of factors in 4 categories of indoor allergens

Control of Environmental Factors

- House-dust mites
  - Encase mattress and pillow in impermeable cover
  - Wash bedding weekly in hot water
  - Reduce indoor humidity < 50 %
  - Remove dust “collectors” from room

- Animal Dander
  - Remove animal from house
  - Keep out of patient’s bedroom and off fabric furniture
  - Filter on bedroom airduct

Control of Environmental Factors

- Indoor Mold
  - Fix leaky faucets and pipes
  - Avoid humidifiers
  - Reduce humidity < 50 %

- Cockroaches
  - Traps
  - Preventative measures

Asthma Education

- Dynamic ongoing process
- Begins at diagnosis and integrated into every step of clinical care
- Team approach
  - PCM / Nurse
  - Respiratory Therapist
  - Health Promotions Coordinator
  - Pharmacists
- Regularly teach and review
  - Basic asthma facts
  - Role of medications
  - Device and monitoring skills
  - Environmental control measures
  - When and how to take rescue actions

Asthma Education

- Teach asthma self-management, tailoring approach to needs of each patient being sensitive to cultural beliefs and practice
- Jointly develop treatment goals
- Encourage adherence by promoting open communication; emphasizing goals and outcomes


BURGER KING
Our Beef is Really Fresh


Hang in There…..
Almost Finished!!!

Follow up After ED Asthma Visit

- Emphasize the need for continual, regular care in an outpatient setting
- Refer the patient to a follow-up medical appointment
- A visit to the emergency department is often an indication of inadequate long-term management of asthma or inadequate plans for handling exacerbations
- Notify the patient's health care professional within 24 hrs (or provide a referral to one if the patient does not name a source of asthma care), and instruct the patient to seek a follow-up medical appointment within 3 to 5 days

Follow up After ED Asthma Visit

- When possible, schedule such an appointment prior to the patient's discharge
- The follow-up visit should include a detailed review
  - Patients' medications
  - Inhaler and peak flow meter technique
  - Development of comprehensive daily management and action plans
- Referral to an asthma specialist because this has been reported to reduce the rate of subsequent emergency department visits

Zeiger RS, et al. *J Allergy Clin Immunol* 1991;87:1160-8.

Enrolled Asthmatics, Age 0-18, Who Received a Primary Diagnosis of Asthma in the Emergency Department, During the Previous 12 Months

Place of Care	Patient Count seen in the ED
PEDIATRICS, GENERAL	**31**
PEDS CONTINUITY CLINIC	**11**
TOC CLMT MESA PRIMARY CARE	**11**
TOC CHULA VISTA PRIMARY CARE	**9**
FAM PRAC-PRIMARY CARE GRP-NTC	**6**
MIRAMAR, FAMILY PRACTICE	**6**
ADOLESCENT, CLINIC	**3**
PRIMARY CARE GROUP CORONADO	**2**
Grand Total	79

Enrolled Asthmatics, Age 0-18, Who Received a Primary Diagnosis of Asthma in the Emergency Department, During the Previous 12 Months

Primary Care Manager	Patient Count seen in the ED
[redacted]CHOLAS J	5
[redacted]E KARIN	4
[redacted],PATRICIA	3
[redacted],JILL E	3
[redacted]SA J	3
[redacted]CIS	3
[redacted]MARGARET	3
[redacted]HONY	2
[redacted]RAH J	2
[redacted]LTER L	2
[redacted]VORIQUE O	2
[redacted]THLEEN E	2
[redacted]SA A	2
[redacted]IDRA	2

Asthma Patients Enrolled to Pediatrics, Pediatrics Continuity & Adolescent Clinics with an ED Visit in the Previous 12 Mo as of 10 Jan 05

MI	POC NAME	PCM NAME	Name	Fmpssn	Dob	Age	Acv	Phone	Address	City	State	Zip	Enrolled
02	ADOLESCENT, CLINIC		[redacted]	01/366	08/20/1985	20	E	95130 30046	32214 CORTE TOMATLAN	TEMECULA	CA	92592-1207	Q
02	ADOLESCENT, CLINIC			44	01/08/1992	14	E	85857 86277	9888 ERMA RD APT 56	SAN DIEGO	CA	92131-2418	Q
02	ADOLESCENT, CLINIC			67	11/18/1988	17	E	61927 11361	1942 HARRILS MILL AVENUE	CHULA VISTA	CA	91913	Q
02	PEDIATRICS, GENERAL			74	08/06/2002	3		858-715-0145	2716 LINDA VISTA CT	SAN DIEGO	CA	92111-5742	Q
02	PEDIATRICS, GENERAL			11	10/19/2001	4	E	619-395-4755	1250 SANTA CORA ACE #1024	CHULA VISTA	CA	91913	Q


ALWAYS
GIVE 100%
AT WORK
12% MONDAY
23% TUESDAY
40% WEDNESDAY
20% THURSDAY
5% FRIDAY

Guidelines for Referral to Asthma Specialist

- Life-threatening asthma exacerbation
- Asthma therapy goals not met after 3-6 months of treatment
- Signs and symptoms are atypical
- Other conditions complicate asthma or its diagnosis
- Additional diagnostic testing is indicated
- Severe persistent asthma requiring step 4 care
- Continuous or frequent oral corticosteroids
- Under age 3 and requires step 3 or 4 care

Tips for Working Within the Time Constraints of the Typical Office Visit

- Assessment Questionnaire / Standard Forms
- More frequent follow-up visits
- Train office staff to help
- Use videos and other educational materials
- Asthma education class via Health Promotions
- Reliable Internet Asthma Education sites
- Email communication


The End


LOST
PERSONS
AREA
Questions ???